SULLYS HILL NATIONAL GAME PRESERVE

FT. TOTTEN, NORTH DAKOTA

1970

NARRATIVE REPORT

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Sullys Hill National Game Preserve
Fort Totten, North Dakota 58335

Substation of Devils Lake Wetland Management Office

1970

United States Department of the Interior
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife

Sullys Hill National Game Preserve
Fort Totten, North Dakota

Narrative Report for Period January 1 to December 31, 1970

Devils Lake Wetland Management Office

Omer N. Swenson	Project Leader, GS-12
Mary C. Pake	Clerk-typist, GS-3

Sullys Hill National Game Preserve

Permanent Personnel

David E. Goeke	Refuge Manager, GS-9
Irvin A. Nelson	Biological Technician, GS-6

Temporary Personnel

Everett Brash (5/25-10/16/70)	Carpenter, WG-7
Eric Longie (8/13-28/70)	Laborer, WG-2

Neighborhood Youth Corps

Curtis Abraham	6/23/70 - 8/12/70
Fred Bigtrack	6/23/70 - 8/12/70
Eric Longie	6/23/70 - 8/12/70
Tom Striefel	6/23/70 - 8/12/70
Dean Dunn	7/15/70 - 8/12/70
Jessie McKay	7/15/70 - 8/21/70
Louis Chaske	8/12/70 - 8/21/70
Alfred Littlewind	8/12/70 - 8/21/70

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Sullys Hill permanent personnel (l. to r.) Refuge Manager, David E. Goeke; Biological Technician, Irvin A. Nelson.

I. GENERAL

A. Description of the Area.

The 1,674-acre preserve consists of mainly large, wooded terminal moraine hills, located on the south shore of Devils Lake in North Dakota. The largest of the hills was named for General Alfred Sully, who in 1865 led a campaign against the Sioux of this area.

Established as a national park in 1904, the preserve is rich in Indian and early military history. Eight Indian burial mounds on the preserve are thought to be over 600 years old. What is now the big-game pasture provided logs in 1867 and clay bricks later for the building of Fort Totten (one mile west.) The fort is now a state historical park.

Primary emphasis in management of the preserve is placed on outdoor education and wildlife-oriented recreation. Public use during 1970 totaled 42,400 visits, most of which used the self-guided auto tour route through the big-game enclosure. Summer big-game herds during 1970 totaled 39 buffalo, 31 elk, and about 35 white-tailed deer. The 60-acre Sweetwater Lake recreation area contains picnic grounds, a 1-mile nature trail and a 12-acre lake with a display flock of native waterfowl.

At the end of 1969 Sullys Hill officially became a substation under the supervision of the Devils Lake Wetland Manager. Stump Lake NWR and the 12 easement refuges formerly reported with Sullys Hill are reported with those of the Devils Lake Wetland Management Office.

B. Weather.

The year began with near normal conditions. The coldest period of the year as recorded at the preserve was January 16-21 when temperatures fell to -27, -37, -38, -31, -33 and -28 respectively. Some thawing occurred during the last week of February but winter resumed and didn't let up again until March 17. Local runoff had begun to subside when a 10" snowfall April 19-21 soon melted and caused local flooding of farm land. The last frost was on May 5.

Rainfall through June was near normal but was 2.12" above normal during July. Though farming in much of this part of the state suffered from the late runoff and the rains of June and July, the local area was relatively uneffected due to its fast drying topography. Summer temperatures were above normal with 19 days of readings 90 degrees or higher. August was dry but a 1.5" rain on September 7

A late storm dropped 10" of wet snow April 19-21 and created a temporary winter wonderland.

View of Ft. Totten Bay south of highway 57. The rising level of Devils Lake necessitated raising the highway grade 3' (on left of photo) and created additional preserve marsh. The almost submerged preserve sign stood on dry ground in 1968.

followed by cool weather heralded a fire-free fall. A killing frost on September 13 ended the growing season after 130 frost-free days, 22 days longer than in 1969.

The new winter's first snow fell on October 28 but the snow cover did not become permanent until November 21, 15 days earlier than in 1969. Average snow depth at the end of the year was about 10 inches.

1970 WEATHER DATA

	Max.*	Min.*	Mean	Precip	Snow	Norm	Depart
Jan.	32	-31(-38)	0.7	.45	6.9	.53	-.08
Feb.	43(40)	-25(-33)	10.7	.28	3.5	.65	-.09
March	44	-14(-19)	16.4	.77	8.7	.77	
April	75(77)	5	37.8	1.10	7.4	1.15	-.05
May	90(93)	26	51.6	2.63	T	2.11	+.52
June	95	46	68.5	3.36		3.36	
July	96	47	70.8	4.69		2.57	+2.12
Aug.	95	42	68.6	1.94		2.18	-.24
Sept.	94	28(25)	58.3	1.80		1.70	+.10
Oct.	85	22(20)	44.6	.66	1.0	1.07	-.41
Nov.	56	- 6(-10)	25.8	.28	3.2	.68	-.40
Dec.	40(37)	-25(-28)	7.5	.68	8.9	.52	+.19
	96	-31(-38)	38.4	18.64	39.6	17.29	+1.35

* Temperatures in ( ) are unofficial records collected at preserve headquaters.

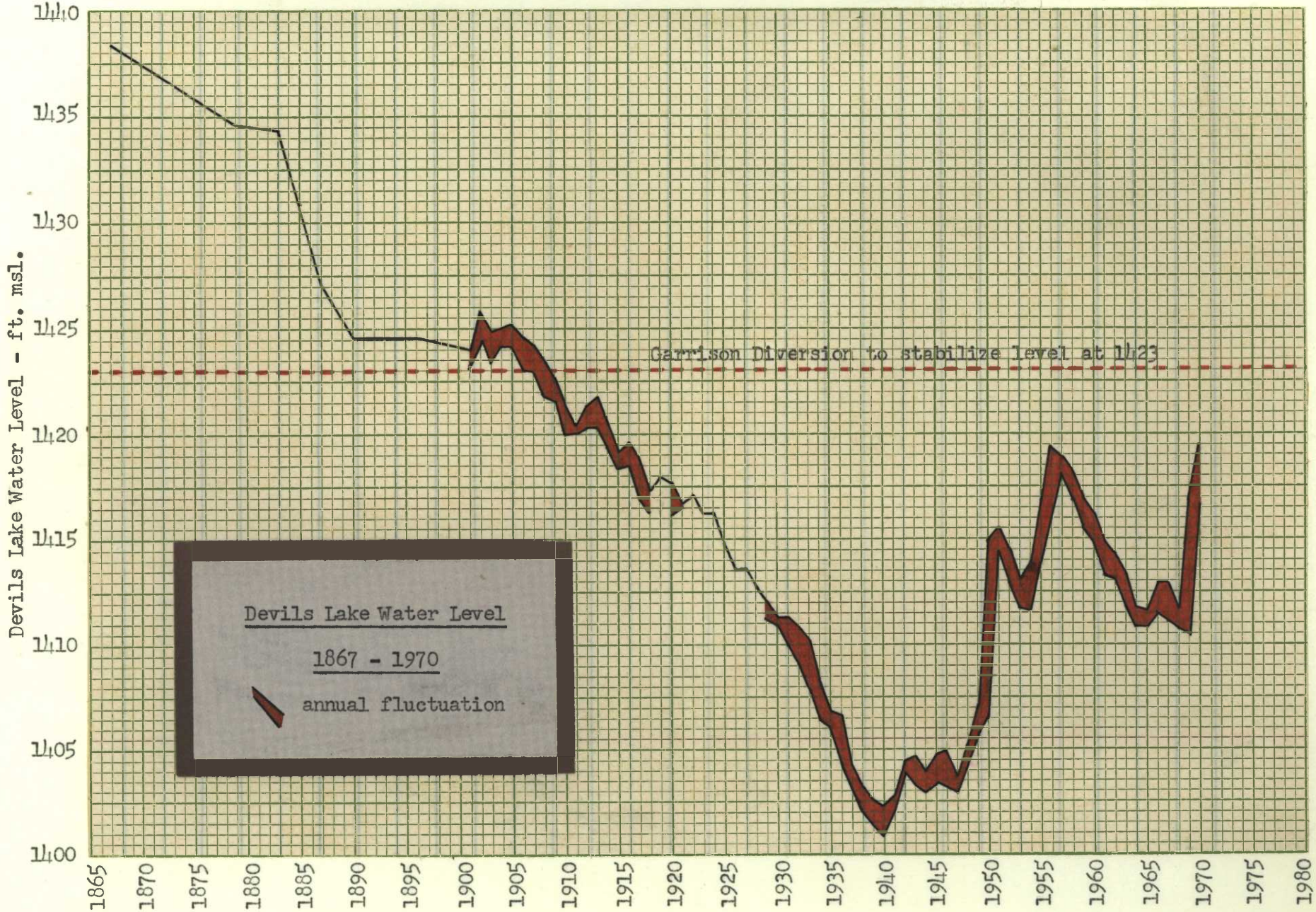
C. Habitat Conditions.

1. Water.

Thawing began at the preserve on March 17. On April 25 Sweetwater Lake was ice free, 13 days later then in 1969. Devils Lake opened completely on April 29, 4 days later than in 1969. The preserve was unaffected by the local heavy runoff.

The springs in the big-game enclosure continued to run throughout the year, providing plenty of drinking water for the animals. The main spring and watering tank were cleaned of sediment. Potholes in the enclosure contained water until August.

The Mauvais Coulee continued to run throughout the year and by August 6 had brought the level of Devils Lake to 1419.5 ft. msl., its highest level since 1916. This was an increase of 8.6 feet from the 1968 low of 1410.9. Water levels of the lake began topping Highway 57 in May and in June the state highway department raised the grade 3 feet. It may be necessary to raise it even further during 1971. At the end of the year the lake level had dropped to about 1419. The increased water level added 5-10 acres of marsh to the preserve portion of Ft. Totten Bay.


Devils Lake Water Level - ft. msl.
1440
1435
1430
1425
1420
1415
1410
1405
1400
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
Garrison Diversion to stabilize level at 1423
Devils Lake Water Level
1867 - 1970
annual fluctuation

Since Devils Lake presently has no outlet and depends on runoff for its water, fluctuations in its level are not unusual. Historically, the lake has been subject to fairly rapid but infrequent rises during wet years and consistent slow falls due to evaporation during dry years. The Garrison Diversion project now under construction is scheduled to bring fresh water from the Missouri River into the basin in 1976 and stabilize the lake level at 1423 feet.

Sweetwater Lake froze over on November 14, four days earlier than last year. Devils Lake closed on November 22, four days later than last year.

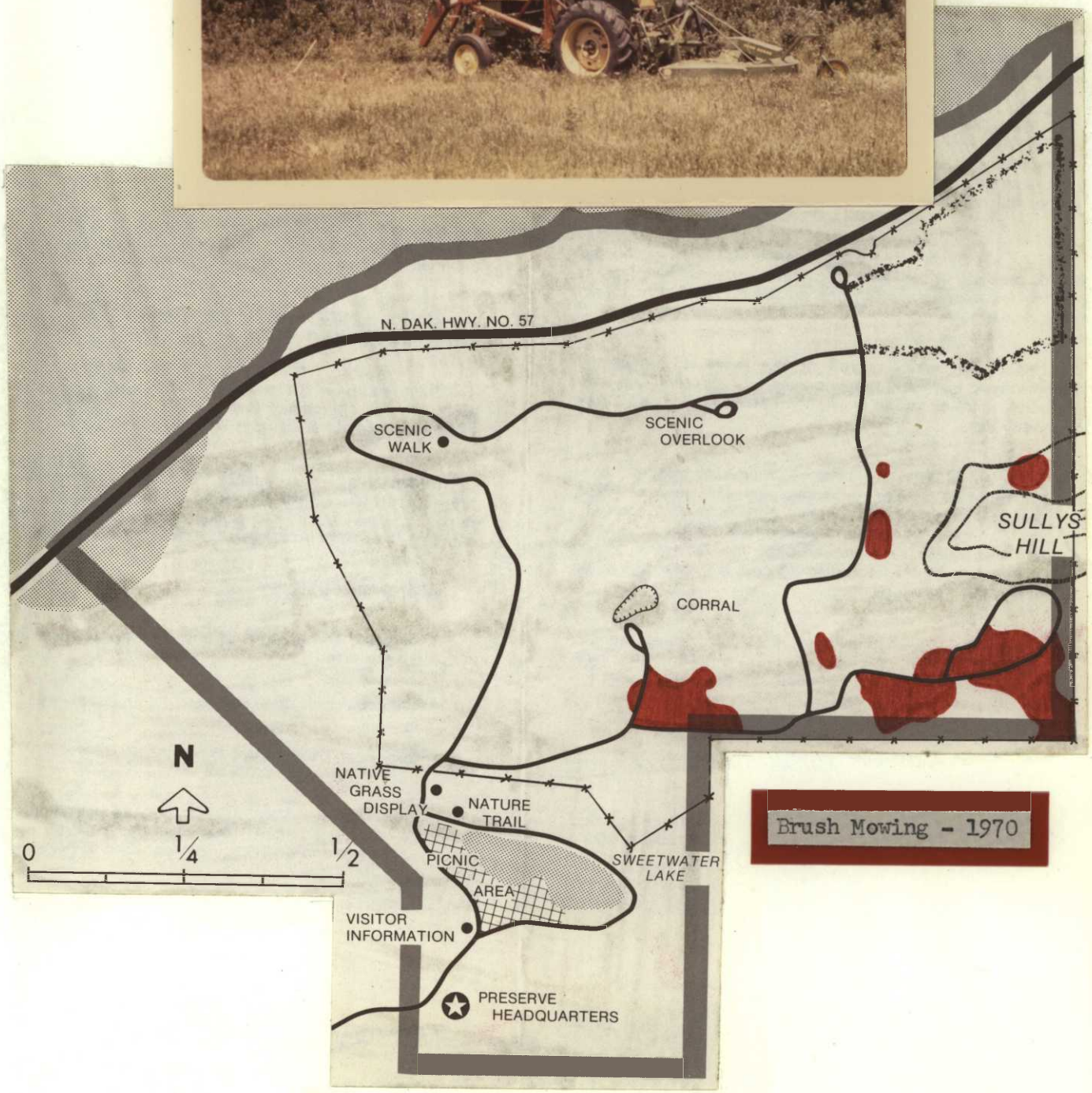
2. Food and Cover.

With the good moisture conditions during the spring and early summer growth of grasses was good, and the range in the enclosure was in fine shape going into the winter. Hay production was very good and only one cutting was needed to insure an adequate winter feed for the big game. Choke cherry production was good and, considering the abundance of this shrub, produced a great deal of food. No juneberries were observed. There has not been a significant juneberry crop since 1967 when production was only fair.

Acorn production was good for the first time since 1959 and probably contributed to the increase of gray and fox squirrels. Evidence of deer pawing for fallen acorns was common.

Twenty five acres of buckbrush in the enclosure were mowed using the newly acquired John Deere "brush hog" mower to reduce competition with grasses. Use of the new mower proved highly successful and makes such habitat improvement more feasible. Areas mowed are shown on the accompaning map.

Defoliation by forest tent caterpillars occurred for the second year in a row. Damage was severe on 245 acres in the big-game enclosure with 90-100% defoliation on 110 acres. Variable oak leaf caterpillars caused additional damage to new foliage on trees that had been attacked earlier by the tent caterpillars. Pupation of forest tent caterpillars began about June 20. A more detailed report is presented in Section V.



Brush Mowing - 1970

Area on north side of Sullys Hill prior to brush mowing - last mowed about 1963.

Same area following mowing with John Deere "brush hog". Note effects of tent caterpillar defoliation.

II. WILDLIFE

A. Migratory Birds.

1. Captive Display Flock.

The captive flock presently contains 19 giant Canada geese, 6 small Canadas, 13 snows, 3 blues and 4 whistling swans. All but the large Canadas are cripples collected from the surrounding area over the past several years. This year 4 small Canadas, 7 snows, 1 blue and 1 swan were added to the flock. Several of the geese required wing amputations and most seem to be doing well. Our 2 white-fronted geese both disappeared during the summer. We would like to acquire several of these birds to maintain our collection of all species of geese native to the area.

Canada geese attempted seven nests on Sweetwater Lake but only three nests hatched. Wind and ice action moving nesting rafts resulted in some abandonment. One pair rode their raft over 200 feet without abandoning and later hatched 3 of their 4 eggs. Another pair nested on shore near a picnic site. The nest was moved to a raft, kept in the same location for a week, and was then moved approximately 50 feet onto the water without being abandoned. The goose later hatched 6 of her 7 eggs. Total production from 3 nests was 13 goslings.

1970 Successful Nests

Pair ♂	Pair ♀	Site	Began Incubation	Hatch	Eggs	Goslings	Raised to Flight
L-2,	J-3	raft*	4/24	5/22	7	6	2
B-1,	G-7	S raft		5/29	4	3	2
H-6,	L-5	N raft	5/15	6/13	4	4	3
					15	13	7

* Nest moved to raft from point near present observation deck.

Of the 13 goslings hatched, 7 survived to flight. Three of the 4 goslings lost from the first brood were believed caught by local children and the fourth was caught by a visitor's dog. One gosling was lost from each of the other broods to natural causes.

During and shortly after winter roundup of the flock on November 23, 8 giant Canadas, 1 snow and 1 blue flew off for parts unknown.

Goose nest in the process of hatching on May 22 (pair L-2, J-3). This nest was moved from its original location on shore to the raft and later approximately 50' out onto the water without being abandoned.

2. Geese - Wild.

The first spring migrants observed were 3 flocks of snow and blue geese and 1 flock of Canadas on April 7. On April 11 a relatively tame large Canada goose was present with the display flock on Sweetwater Lake. A pair of tame large Canadas was also reported to have spent about three days in early May on Lake Minnewastena. These geese may have been returnees from Sullys Hill.

On October 14 a flock of 18 small Canadas stopped on Sweetwater Lake and on November 20 a lone adult snow goose was observed on Ft. Totten Bay. No other wild geese were known to use the preserve. Large numbers of snow and blue geese were observed heading south over the preserve on November 11, and 13. The last migrants were observed on November 14.

3. Ducks.

The first spring migrants to arrive were a pair of mallards on April 7. Spring migration peaked during the last week of April when 12 species were observed. The first recorded observations of ring-necked ducks and red-breasted mergansers for this station were made on April 27 and 28 respectively.

Duck production habitat is limited on the preserve and only two mallard broods were observed. Four pair of mallards appeared to have nested around Sweetwater Lake but only one was successful. The other brood was in the marsh south of highway 57.

The fall migration is difficult to interpret. It is drawn out over a much longer period than in the spring and is further complicated by the effects of the wind on birds using Devils Lake. On days with a south wind, large numbers of waterfowl seek the shelter of the preserve shore, but at other times they are scattered over the lake. The fall's first large movement of waterfowl into the Ft. Totten Bay area occurred on August 28 with the appearance of 3800 shovelers along the preserve shore and many more on open water. No management is attempted.

On November 3, among 160 ducks on Sweetwater Lake were 7 hooded mergansers and 1 black duck, both uncommon for this area. On November 13 large numbers of scaup and lesser numbers of shovelers began leaving Ft. Totten Bay just after sunset. The remaining ducks left Devils Lake when the lake froze over on the night of November 21.

The increased use of Sullys Hill by wood ducks is interesting and may be a result of the work being done to encourage wood duck nesting at Arrowwodd Refuge. A pair of "woodies" has used Sweetwater Lake for several years. In recent years observations have increased in the fall with 5 in 1966, 9 in 1968, and 33 in 1970. Twelve were recorded on May 29, 1970. The fall flock (33) this year was 75-80% males. Trapping and banding these birds could verify our suspicions that the Arrowwood birds are expanding their range.

4. Whistling Swans.

The first migrant swan observation was a flock of 30 flying over on April 11. The first fall migrants were observed on October 8. Three swans were seen on Ft. Totten Bay October 23, but apparently the rising lake level over the past two years has eliminated the once common use of the bay by the swans. Many flocks were observed migrating over the lake toward the east and southeast from November 13 to 20 with the last seen on the 20th.

5. Coots.

First observed April 28, coots peaked at 67 in early May and dwindled to zero by the end of the month. They were absent throughout June and reappeared during the second week of July. The fall migration peaked at 400 as compared with 750 a year ago. Total use was down almost 40% from 1969 but at 10,600 use-days was still much higher than the 600 use-days of 1968. The last coots were observed Nov. 11.

6. Other Waterbirds and Shorebirds.

Twelve species (including the American woodcock) from these orders were added to the preserve bird list during 1970. The new additions are listed in section II-D. Many of these are undoubtedly present each year but had never been recorded. The Virginia rail and several of the sandpipers were fairly common at times. The dunlin, American woodcock and glaucous gull are worthy of special note as they occurred outside their "normal" ranges. The glaucous gull was observed at close range on November 25 and may be the first recorded observation of this species in North Dakota. Reportedly, Karl Hansen of the NPWRC saw a glaucous gull about 1967 when stationed at Long Lake NWR.

Western grebe use of Ft. Totten Bay and Devils Lake proper remains high during late summer and early fall. First observed on April 28, western grebes reached a peak of 185 observed on Ft. Totten Bay on October 2. Freshening of the lake has aided fish populations and thereby the grebes and other "fish-eaters." Western grebes were last observed November 15.

White pelicans and double-crested cormorants were first seen on April 26. Though relatively few pelicans use the refuge throughout May and early June, flocks of up to 250 could be seen feeding near the culverts between Devils Lake proper and East Bay and at Ziebach Pass. A few pelicans remained throughout the summer leaving with other migrants in late September.

Cormorants peaked at 42 on April 29 but about 30 remained throughout most of the summer. When people were not around, cormorants could often be found fishing in Sweetwater Lake - 19 on September 10. They were gone by mid-October.

Though no sandhill cranes used the area, large numbers passed overhead on April 24 - 26.

The first ring-billed gulls arrived on April 6, the same date as last year, and the first Franklin's gulls on April 16, nine days earlier than last year. Franklin's gulls numbers peaked during May when about 1000 were present at the Ft. Totten sewage lagoons just west of the preserve. Large numbers of Franklin's gulls were migrating on August 24 and the rest were gone by mid-September. The last ring-bills left when Devils Lake froze up on the night of November 21.

6. Mourning Doves.

Doves are not abundant at Sullys Hill. The first migrants were observed on April 11, four days earlier than last year. A few doves nest in each unit but most nests are built in the shelter belts in Unit II.

B. Upland Game Birds.

1. Sharp-tailed Grouse.

While burning 55 acres of the former grazing area in Unit II (Sec. III-E), one grouse nest was located and another grouse was flushed several times from the same area but its nest was not found. A later check indicated that the 15 eggs in the located nest had successfully hatched. Prior to the curtailment of grazing at the end of 1968 very little undisturbed cover was available for nesting. At the end of 1970 a flock of at least 17 was wintering in Unit I in the vicinity of the hay pen and another flock of at least 11 was wintering in the shelter belts of Unit II. The birds in Unit I were the first seen there in the last few years and the present winter total of at least 28 is also the highest of recent years.

2. Ring-necked Pheasant.

Last year described as rare and endangered, this species is now probably extinct on the preserve and in the immediate area. The last pheasants, two hens, were last seen on April 1 at the feeding station in the recreation area.

3. Gray Partridge.

Local numbers remain low. The only observation on the preserve was a covey of about 20 seen October 21 during the grass seeding in Unit II.

C. Predaceous Birds.

1. Hawks and Falcons.

Ten species of hawks (not counting eagles) and two falcons were observed during the period. The Harlan's, broad-winged, ferruginous and pigeon hawks were all new additions to the preserve birdlist. The first migrant was observed on April 1 but was not identified. Four days later 6 red-tailed hawks were observed and marsh hawks were common in the area. The first sparrow hawk was seen April 11 and many were in the area by the 14th. On April 19 a sharp-shinned hawk was observed catching a hermit thrush and making several attacks on birds using a headquarters feeder. A large number of hawks, mostly red-tails, were observed heading north at high altitude on April 25. The most common hawk actually using the preserve was the broad-winged hawk. During much of May four to six of these relatively tame hawks could be seen sitting in the low branches of trees in the recreation area.

During the fall the only noticeable hawk movement was an apparent migration of marsh hawks through the area September 19-20. Far fewer hawks were seen during the fall than during the spring.

2. Ospreys.

First recorded at Sullys Hill in 1969, six were observed during 1970. Four were seen during the spring and two during the fall. Another, observed catching a fish at Ziebach Pass May 16 may have been the same one seen at Sullys Hill on May 14.

Spring:	April 25	2	Fall:	Sept. 11	1
	April 28	1		Sept. 20	1
	May 14	1			

3. Eagles.

A few pass through the area each spring and fall. All eagle observations are considered noteworthy and are listed:

April 14	2 immature bald	Oct. 9-11	1 immature bald
April 19	1 " "	Oct. 25-28	3(poss.4) apparent family
April 26	1 " golden	group of bald eagles, at least 1 adult	
May 1	1 immature bald	and at least 1 immature.	

4. Turkey Vultures.

The preserve's first recorded observations were made this year. The observations were made April 11 (2), April 25 (1) and May 31 (1). None were seen during the fall.

5. Owls.

Great horned owls are heard occasionally but their numbers are low. Screech owls were heard only during late summer which is apparently the only time they are here. The same was true in 1969. No snowy owls were observed at the preserve but one was recorded about five miles southeast during the Christmas count December 29. No other species were recorded.

6. Crows.

The first migrant crows were seen March 18, one day earlier than last year, with much chasing and calling. Crow numbers peaked during the first part of October - approximately 300 compared with 400 last year. Again this year two crows are wintering here.

7. Magpies.

Black-billed magpies are year-round residents, being most common during the fall. Peak numbers are observed during the surplus animal disposal. Numbers were similiar to past years with as many as 7 or 8 observed at one time feeding on a pile of offal.

D. Other Birds.

Until 1970 no official birdlist for Sullys Hill had been published and records were scattered. In January a mockup was submitted and in June it was printed by the GPO. The final product is appreciated but contains several errors in printing and inconsistencies that detract from its quality. A complete revision and explanation has been submitted.

During the year 181 species were observed including a totalof 43 new additions to the list. Most of the new species were undoubtedly not new to the area but merely gone unnoticed or unrecorded. All species observed during 1970 are marked on the accompanying list and new additions are underlined.

The occurrence of three of the new additions not already mentioned in this report was considered unusual and merits special mention. A mockingbird observed at close range on May 9 was far north of its normal range. According to Audubon Field Notes, Vol. 24:4, August 1970, other northern observations of mockingbirds were also made during the spring in Quebec, Ontario and the Western Great Lakes Region. A flock of approximately 150 red crossbills was present in the headquarters area from June 17-21. Several used the feeders at quarters #1. A female cardinal first observed October 21 by the end of the year was a daily visitor at the quarters # 1 feeder.

First observation dates were kept for all species. A few representative species are listed below in chronological order.

April	2	Slate-colored Junco	April	28	White-throated Sparrow
"	5	Western Meadowlark	May	3	Vesper Sparrow
"	6	Robin	"	8	Western Kingbird
"	11	Belted Kingfisher	"	9	Least Flycatcher
"	13	Brown Creeper	"	9	House Wren
"	19	Hermit Thrush	"	9	Brown Thrasher
"	25	Tree Swallow	"	9	Veery
"	27	Yellow-shafted Flicker	"	10	Baltimore Oriole
"	27	Red-winged Blackbird	"	13	Eastern Kingbird
"	28	Myrtle Warbler	"	13	American Goldfinch

By April 6 juncos and robins were abundant in the headquarters area. The warm southerly winds on the 25th also brought large numbers of tree swallows. The warbler migration began with large numbers of myrtle warblers on April 28. It peaked during the period May 8-10 when 14 species of warblers, including 11 new arrivals were observed.

The fall migration was first noticed on August 23 when eastern kingbirds and large numbers of swallows were observed heading south. On the following day in addition to swallows a few common nighthawks were flying south. Warblers were observed migrating September 27. Juncos also arrived on the 27th and were common in the woods by October 7. Most migrants of this group were gone by the end of October. Robins were a notable exception. A small flock of about 12 staying near the inlet of Sweetwater Lake were still present at the end of the year. On several occasions they were observed from close range catching and eating minnows from a small patch of open water crowded with thousands of minnows.

In conjunction with the Audubon Society's recent efforts to revitalize reporting in the Northern Great Plains Region, beginning with the fall of 1970, seasonal bird population and migration information is being submitted to Audubon Field Notes.

BIRDS of SULLYS HILL National Game Preserve

SULLYS HILL NATIONAL GAME PRESERVE is located 15 miles southwest of Devils Lake, North Dakota, in the heart of the Fort Totten Sioux Indian Reservation. The preserve covers 1,674 acres of wooded glacial moraine hills and grassland. Its 994-acre big game unit, originally set aside as a national park in 1904, became a preserve for buffalo, elk, and whitetail deer in 1914, and was transferred to the National Wildlife Refuge System in 1931.

The preserve's wooded hills are attractive to birds not normally seen in the open areas of the State. In addition, a wide variety of waterfowl, and shore- and marsh birds, may be found around Sweetwater Lake, along the preserve's shore of Devils Lake, and in the marsh of Fort Totten Bay. Peak bird populations are from late April to early June, and from late August to mid-October.

This folder lists 260 birds that may be observed in this general area. Of this number, 97 species marked with an * have not yet been recorded on the preserve.

★ 1970 additions underlined.

- [X] Common Loon
- [X] Red-necked Grebe*
- [X] Horned Grebe
- [X] Eared Grebe
- [X] Western Grebe
- [X] Pied-billed Grebe

- [X] White Pelican
- [X] Double-crested Cormorant

- [X] Great Blue Heron
- [X] Common Egret
- [X] Black-crowned Night Heron
- [ ] Least Bittern*
- [X] American Bittern

- [X] Whistling Swan
- [X] Canada Goose
- [ ] White-fronted Goose
- [X] Snow Goose
- [X] Blue Goose
- [X] Mallard
- [X] Black Duck
- [X] Gadwall
- [X] Pintail
- [X] Green-winged Teal
- [X] Blue-winged Teal
- [X] American Widgeon
- [X] Shoveler
- [X] Wood Duck
- [X] Redhead
- [X] Ring-necked Duck*
- [X] Canvasback
- [ ] Greater Scaup*
- [X] Lesser Scaup
- [X] Common Goldeneye
- [X] Bufflehead
- [ ] White-winged Scoter
- [X] Ruddy Duck
- [X] Hooded Merganser
- [X] Common Merganser
- [X] Red-breasted Merganser*

- [X] Turkey Vulture*

- [X] Goshawk
- [X] Sharp-shinned Hawk
- [X] Cooper's Hawk
- [X] Red-tailed Hawk
- [X] Harlan's Hawk*
- [ ] Red-shouldered Hawk
- [X] Broad-winged Hawk*
- [X] Swainson's Hawk
- [X] Rough-legged Hawk
- [X] Ferruginous Hawk
- [X] Golden Eagle
- [X] Bald Eagle

- [X] Marsh Hawk
- [X] Osprey
- [ ] Prairie Falcon
- [ ] Peregrine Falcon
- [X] Pigeon Hawk*
- [X] Sparrow Hawk

- [X] Sharp-tailed Grouse
- [X] Ring-necked Pheasant
- [X] Gray Partridge

- [ ] Whooping Crane*
- [X] Sandhill Crane

- [X] Virginia Rail*
- [X] Sora
- [ ] Yellow Rail*
- [X] American Coot

- [X] Semipalmated Plover
- [ ] Piping Plover*
- [X] Killdeer
- [ ] American Golden Plover*
- [ ] Black-bellied Plover*
- [ ] Ruddy Turnstone
- [X] Common Snipe*
- [ ] Long-billed Curlew
- [ ] Upland Plover*
- [X] Spotted Sandpiper
- [X] Solitary Sandpiper*
- [X] Willet
- [X] Greater Yellowlegs
- [X] Lesser Yellowlegs
- [X] Pectoral Sandpiper*
- [X] White-rumped Sandpiper*
- [ ] Baird's Sandpiper*
- [X] Least Sandpiper
- [ ] Short-billed Dowitcher*
- [ ] Long-billed Dowitcher
- [X] Stilt Sandpiper*
- [X] Semipalmated Sandpiper
- [X] Western Sandpiper*
- [ ] Buff-breasted Sandpiper*
- [ ] Marbled Godwit
- [X] Hudsonian Godwit
- [ ] Sanderling*
- [X] American Avocet
- [X] Wilson's Phalarope
- [X] Northern Phalarope

- [ ] Herring Gull
- [X] Ring-billed Gull
- [X] Franklin's Gull
- [X] Bonaparte's Gull*
- [ ] Forster's Tern*
- [X] Common Tern
- [ ] Caspian Tern*
- [X] Black Tern

- [ ] Rock Dove*
- [X] Mourning Dove

- [ ] Yellow-billed Cuckoo
- [X] Black-billed Cuckoo

- [X] Screech Owl
- [X] Great Horned Owl
- [ ] Snowy Owl
- [ ] Hawk-Owl*
- [ ] Burrowing Owl*
- [ ] Barred Owl*
- [ ] Long-eared Owl
- [ ] Short-eared Owl*
- [ ] Boreal Owl*
- [ ] Saw-whet Owl*

- [ ] Whip-poor-will
- [X] Common Nighthawk

- [ ] Chimney Swift*
- [X] Ruby-throated Hummingbird

- [X] Belted Kingfisher

- [X] Yellow-shafted Flicker
- [ ] Red-shafted Flicker*
- [X] Red-headed Woodpecker
- [X] Yellow-bellied Sapsucker
- [X] Hairy Woodpecker
- [X] Downy Woodpecker

- [X] Eastern Kingbird
- [X] Western Kingbird
- [X] Great Crested Flycatcher
- [ ] Eastern Phoebe
- [ ] Say's Phoebe*
- [ ] Yellow-bellied Flycatcher*
- [ ] Traill's Flycatcher*
- [X] Least Flycatcher
- [ ] Eastern Wood Pewee
- [X] Olive-sided Flycatcher*

- [X] Horned Lark

- [X] Tree Swallow*
- [X] Bank Swallow*
- [ ] Rough-winged Swallow*
- [X] Barn Swallow
- [X] Cliff Swallow
- [X] Purple Martin

- [ ] Gray Jay
- [X] Blue Jay
- [X] Black-billed Magpie
- [ ] Common Raven*
- [X] Common Crow

- [X] Black-capped Chickadee
- [X] White-breasted Nuthatch
- [ ] Red-breasted Nuthatch*

- [X] Brown Creeper

- [X] House Wren
- [ ] Winter Wren*

- [X] Long-billed Marsh Wren*
- [ ] Short-billed Marsh Wren*

- [X] Catbird
- [X] Brown Thrasher

- [X] Robin
- [X] Hermit Thrush*
- [X] Swainson's Thrush*
- [X] Gray-cheeked Thrush*
- [X] Veery
- [X] Eastern Bluebird
- [ ] Mountain Bluebird*
- [ ] Townsend's Solitaire*
- [ ] Golden-crowned Kinglet*
- [X] Ruby-crowned Kinglet*

- [X] Water Pipit
- [ ] Sprague's Pipit*

- [ ] Bohemian Waxwing
- [X] Cedar Waxwing

- [X] Northern Shrike
- [ ] Loggerhead Shrike

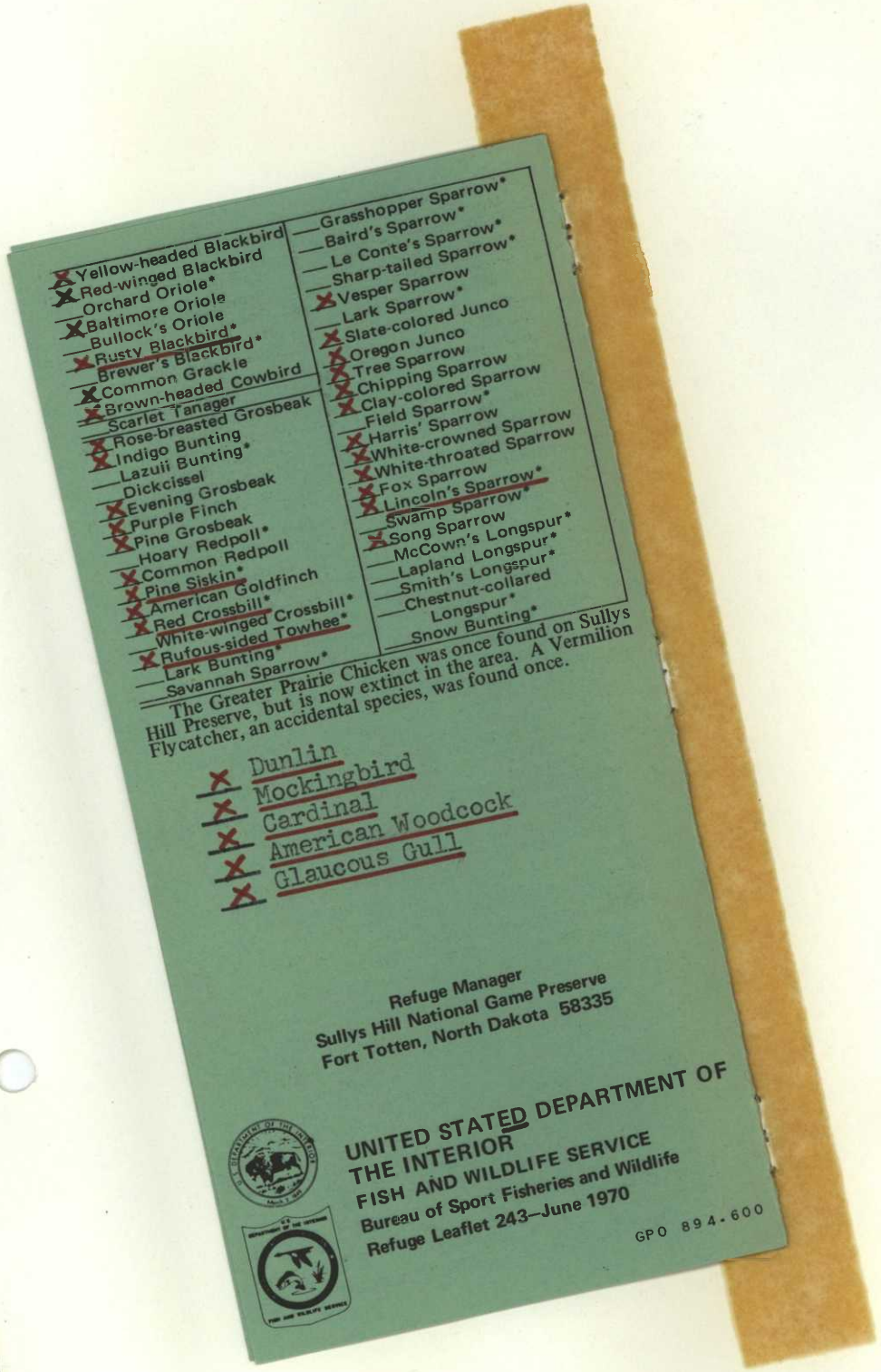
- [X] Starling

- [ ] Yellow-throated Vireo*
- [X] Solitary Vireo*
- [X] Red-eyed Vireo
- [X] Philadelphia Vireo*
- [X] Warbling Vireo

- [X] Black-and-white Warbler
- [ ] Tennessee Warbler
- [X] Orange-crowned Warbler*
- [ ] Nashville Warbler*
- [X] Yellow Warbler
- [X] Magnolia Warbler*
- [X] Cape May Warbler*
- [ ] Black-throated Blue Warbler*
- [X] Myrtle Warbler
- [X] Black-throated Green Warbler*
- [X] Chestnut-sided Warbler*
- [ ] Bay-breasted Warbler
- [X] Blackpoll Warbler
- [X] Palm Warbler*
- [X] Ovenbird*
- [X] Northern Waterthrush
- [X] Connecticut Warbler*
- [ ] Mourning Warbler*
- [X] Yellowthroat
- [ ] Yellow-breasted Chat*
- [X] Wilson's Warbler
- [ ] Canada Warbler*
- [X] American Redstart

- [X] House Sparrow

- [X] Bobolink
- [X] Western Meadowlark



- X Yellow-headed Blackbird
- X Red-winged Blackbird
- X Orchard Oriole*
- X Baltimore Oriole
- X Bullock's Oriole
- X Rusty Blackbird*
- X Brewer's Blackbird*
- X Common Grackle
- X Brown-headed Cowbird
- X Scarlet Tanager
- X Rose-breasted Grosbeak
- X Indigo Bunting
- X Lazuli Bunting*
- X Dickcissel
- X Evening Grosbeak
- X Purple Finch
- X Pine Grosbeak
- X Hoary Redpoll*
- X Common Redpoll
- X Pine Siskin*
- X American Goldfinch
- X Red Crossbill*
- X White-winged Crossbill*
- X Rufous-sided Towhee*
- X Lark Bunting*
- X Savannah Sparrow*
- X Grasshopper Sparrow*
- X Baird's Sparrow*
- X Le Conte's Sparrow*
- X Sharp-tailed Sparrow*
- X Vesper Sparrow
- X Lark Sparrow*
- X Slate-colored Junco
- X Oregon Junco
- X Tree Sparrow
- X Chipping Sparrow
- X Clay-colored Sparrow
- X Field Sparrow*
- X Harris' Sparrow
- X White-crowned Sparrow
- X White-throated Sparrow
- X Fox Sparrow
- X Lincoln's Sparrow*
- X Swamp Sparrow*
- X Song Sparrow
- X McCown's Longspur*
- X Lapland Longspur*
- X Smith's Longspur*
- X Chestnut-collared Longspur*
- X Snow Bunting*

The Greater Prairie Chicken was once found on Sullys Hill Preserve, but is now extinct in the area. A Vermilion Flycatcher, an accidental species, was found once.

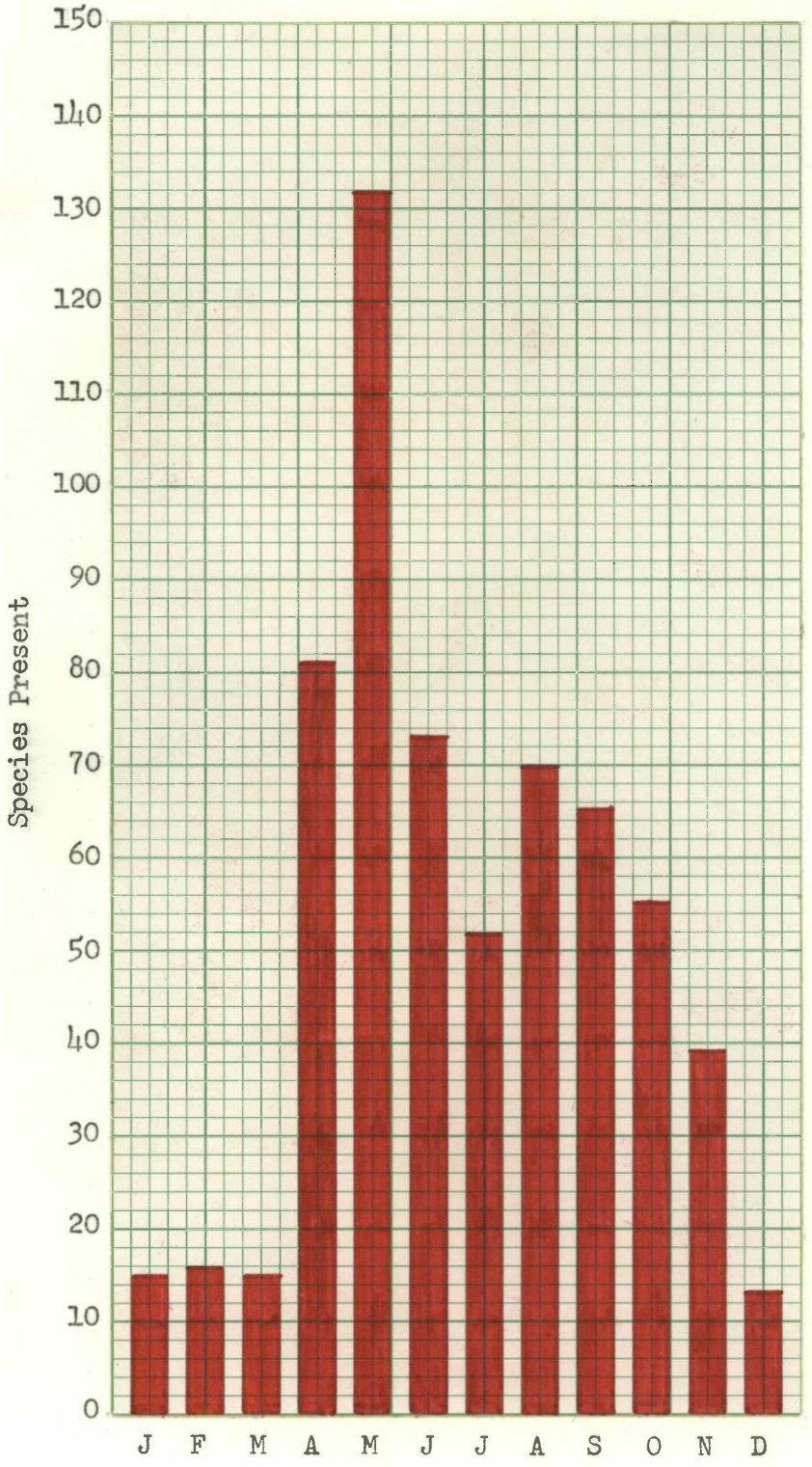
- X Dunlin
- X Mockingbird
- X Cardinal
- X American Woodcock
- X Glaucous Gull

Refuge Manager
Sullys Hill National Game Preserve
Fort Totten, North Dakota 58335

UNITED STATED DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Bureau of Sport Fisheries and Wildlife
Refuge Leaflet 243—June 1970

GPO 894-600

Monthly Totals of Bird Species Present in 1970



The annual Christmas bird count was conducted December 29. A total of 205 birds of 14 species was observed.

Sharp-tailed Grouse	39	Common Crow	2
Snowy Owl	1	Black-capped Chickadee	26
Hairy Woodpecker	4	White-breasted Nuthatch	8
Downy Woodpecker	8	House Sparrow	29
Horned Lark	1	Cardinal	1
Blue Jay	39	Tree Sparrow	1
Black-billed Magpie	11	Snow Bunting	35

Species observed during the count period but not on count day were great horned owl and robin.

E. Big-Game Animals.

1. Buffalo.

At the beginning of 1970 the buffalo herd totaled 31 animals - 15 bulls and 16 cows. There were no losses over the winter and the herd entered the spring in fine condition. The 12 mature cows produced 8 calves for a herd productivity of 75%. The 8 calves were born on the following dates:

1. April 4
2. April 8
3. April 15
4. April 22
5. & 6. April 29
7. May 5
8. May 13

The fourth calf, born April 22, came during the last of a 10" snow storm but fared none the worse for the weather. Of the 8 calves, 6 were bulls and 2 were heifers as compared to 5 bulls and 1 heifer born in 1969.

On June 30 one of the two heifer calves was found to be very thin and weak. The mother was a young cow and she apparently was not producing enough milk. The calf was captured, examined by a veterinarian, and found to be starving and scouring. (Note: Never get too close behind a scared, scouring buffalo calf.) In spite of efforts which included intravenous feeding and a blood transfusion (at no charge) the calf died.

On August 6 a bull calf fell into the tour road cattle guard and struggled out....on the wrong side of the fence. He was finally herded back into the enclosure through a different gate, but not before he hit the fence several times and broke his right horn.

To counter the possibility of inbreeding as discussed at length in the 1969 report, two young bulls were transferred to Sullys Hill from Ft. Niobrara NWR. The first was a 2-year-old released on June 16 and the second a long yearling released on October 16. Both animals joined the herd peacefully and are doing well. Both are branded and can be distinguished from Sullys Hill animals during future removals.

At the end of 1970 the three mature bulls are going through a period of coexistence and the entire herd is together. This was not the case however, throughout most of the year. The 12-year-old bull, "Big Daddy", lost a fight for herd supremecy on September 7, 1969, and was a loner until this past September. Throughout Big Daddy's year of exile and during the entire breeding season his 6-year-old son ruled the herd. Sometime in late June at about the beginning of the breeding season the old bull challenged for the lead, was defeated, and in the process lost his left horn. (In November by pure chance and what must be fantastic odds the missing horn was found. It contained a piece of bony core 8 inches long, the loss of which must have been a bit irritating.) On September 10 the old bull moved in, beat the six-year-old, who was probably a bit out of shape after rendering his services for the preceeding two months, and took over again. An all-out fight between two mature buffalo bulls weighing almost a ton apiece as witnessed on two occasions by the writer is a spectacular sight. The younger bull kept to himself for several weeks before rejoining the herd in a subordinant position. The three mature bulls in 1970 were aged 12 years, 6 years and 4 years.

During the fall six 2½-year-old bulls were removed. Carcass price in 1970 was $280. Weights after skinning ranged from 546 down to 400 pounds with an average of 472 pounds. Blood samples from all six animals tested negative for brucellosis. Planned 1971 removals include the Sullys Hill 2-year-old bull carried over from 1970 and the yearling bulls from 1970.

1970 Buffalo Herd Composition

Age	Bulls				Cows			
Age	Mature	2	1	Calves	Mature	2	1	Calves
Spring '70	3	7	5		12	3	1	
Births				6				2
Introductions		1	1					
Deaths								-1
Removed		-6						
December '70	3	2	6	6	12	3	1	1
Spring '71	5*	6*	6		15	1	1	

* See last of paragraph above concerning planned disposal.

Big Daddy, our 12-year-old bull, following his successful reentry into the herd in September. Note the absence of his left horn broken off when he lost a fight for herd rule in June.

The one heifer calf was vaccinated for brucellosis on November 20. A local NBC television news report on December 16 stated that North Dakota has now been certified brucellosis free.

Supplemental winter feeding of hay and grain cubes was continued until May 1 and resumed on November 17. The animals are fed three times per week. The cubes were made using preserve grain by Nakota Feeds, Devils Lake as summarized in the following table.

Grain (80% barley 20% oats)	10,290#	$5.	
Purina Range Concentrate	2,600#	$5.60/100#	$145.60
Molasses	730#	3.50/100#	25.55
Vitamin A	13#	1.00/#	13.00
Vitamin D	6#	.25/#	1.63
Grinding and Cubing		7.00/T	47.39
Delivery		1.75/T	11.84
Delivery Weight	13,640#		$245.01

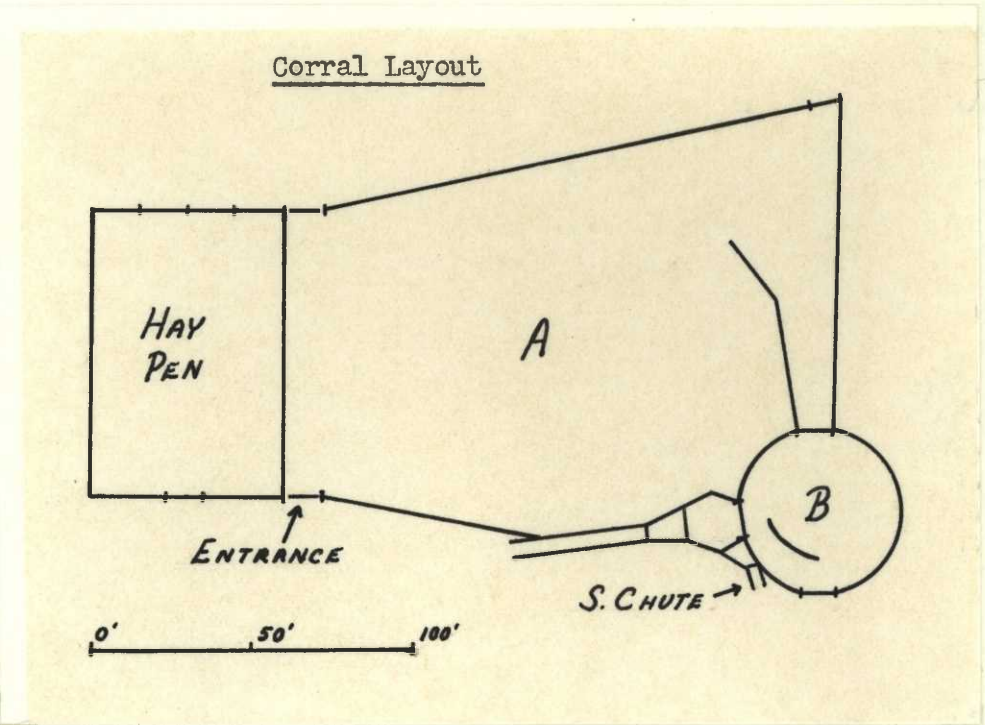
Problem.

Each fall the buffalo are lured into the corral and the year's heifer calves are sorted out and vaccinated for brucellosis. This operation depends on the use of the corral and its squeeze chute. The condition of the corral has deteriorated over the past 35 years or so since it was built to the point where it now poses a serious safety hazard to the men and animals using it.

The last rehabilitation work on the corral was done in 1951 when section B was rebuilt. The horizontal pieces used for the sides are native oak and ash poles and are very badly rotted. Needless to say an adult buffalo could probably charge through this section with ease.

In section A 40% of the posts have been replaced during the corral's lifetime but the remaining 60% are rotten and need replacing. The sides of this section are of woven wire that has been reinforced several times and the wire is now 4 layers thick. The use of wire here is a basic hazard to the animals in that often during the sorting process the buffalo look past the wire and crash head-long into it in the rush to escape.

Operation of the present wooden squeeze chute often results in horn breakage and is a brute to operate. A broken horn permanently scars the animal and lowers its esthetic appeal, an important factor in a display herd such as this.



Operation of the present squeeze chute for vaccinating heifer calves requires 2-3 men and frequently causes horn damage. To the right can be seen the rotted wood poles of section B of the corral.

Its rundown appearance to visitors using the tour route (over 37,000 in 1970) is an embarrassment to the Bureau and its operation is a hazard to both men and animals. In 1969 only 1 of the 6 calves and in 1970 only 1 of the 7 had to be vaccinated. In each case the calves were easily identifiable and no more than five animals had to be sorted through section B either year. More heifer calves would make it necessary to sort more animals. With the corral in its present condition the chances of serious injury to men or animals would be high.

2. Elk.

At the beginning of 1970 the elk herd totalled 23 animals - 3 bulls, 13 cows and 7 calves. There were no losses over the winter and the herd entered the spring in excellent condition.

Calving takes place during May and June but the calves usually aren't seen until they are a month old or more. The first calf was observed June 17 and on June 27 a cow was seen with twins. One set of twins was born in 1969 and apparently two sets in 1970. Two cows with four calves were observed at a water hole July 10. On September 9 we got a complete count of 8 calves, one more than in 1969. Based on the spring total fo 13 mature cows and production of 8 calves, including 2 sets of twins, herd productivity was 46%.

The herd bull (10 Years) and the #2 bull (7 yrs.) were the only mature bulls during 1970 and retained their respective positions within the herd. The older bull shed his antlers on April 11 and the younger on April 16 as compared with April 8 and 20 respectively in 1968. No 1969 dates are available. The new antlers began developing in early May and by June 20 both bulls had 4 points in the velvet and the herd bull was budding the fifth. By September 5 the bulls had shed all velvet except between the brow tines.

The herd bull had gathered the cows into a harem by September 5 and the first bugling was heard on September 8. The harem was maintained until late October. Sometime during the later part of the rut the # 2 bull apparently lost a major fight with the herd bull and in the process the # 2 bull lost most of his left antler and the third and fourth points off the right beam. Neither bull showed any other damage or signs of injury.

To counter the possibility of inbreeding, as discussed at length in the 1969 report, a yearling bull was transferred to Sullys Hill from Ft. Niobrara NWR and released on October 15. (A bull transferred in 1959 was removed the following year due to its poor quality). The new bull was observed alone on November 2 and on November 15 was in the herd with the cows. During a deer census flight on December 7 a lone elk believed to be the new bull was seen near the tour route

10-year-old herd bull.

When you're #2 you have to try harder.

A reluctant spike bull from Ft. Niobrara NWR being released on October 15. The unopened crate contains a yearling buffalo bull. The elk bull has since disappeared. (Omer is pretty particular, he wears those white gloves a lot.)

Whitetail doe with her triplets grabbing a few quick grain cubes before the elk get too close.

below Sullys Hill. He has not been seen since. During another census flight on January 12 a concerted effort was made to find the missing bull. All but one animal of the herd was near the feeding area and a ground check within an hour after the flight showed the new bull was the animal missing. We have no clues to what happened. The bull had shown no signs of illness or injury and periodic patrol of the fence by snowmobile revealed no signs of human intrusion.

During the fall 8 elk were removed, 3 spike bulls and 5 mature cows. There is no chance that we shot the hew bull as his antlers had been cut off approximately 4" above his head and he was easily identifiable. The weights for seven of the carcasses (one not reported) ranged from 353 down to 210 pounds with an average of 292 pounds. Carcass price in 1970 was $110. At the end of the year the herd totaled 23 elk - 3 bulls, 12 cows and 8 calves.

1970 Elk Herd Composition

	Bulls			Cows		Calves
Age	Mature	2	1	Mature	1	
Spring '70	2	1	3	13	4	
Births						8
Introductions			1			
Deaths			-1*			
Removed			-3	-5		
December '70	2	1		88	4	8
Spring '71	3			12		8

* Ft. Niobrara bull, cause unknown.

3. White-tailed Deer.

On February 3, 1970 an aerial census indicated the captive herd totaled 22 deer. The first fawn was reported on July 4 by preserve visitors who saw it being chased by two dogs (See section F-6). The highest observed number of fawns was 10 and production was estimated at about 15. This included a set of triplets for at least the second year in a row.

During the fall 6 deer were removed - 4 bucks and 2 does. One of the bucks was lost and not retrieved. The other five were donated to the North Dakota School for the Deaf at Devils Lake. Disposal was stopped short of the 8 - 10 planned when only 11 deer were counted in the enclosure during the December 7 aerial census. Although conditions were marginal (6" snow cover with bright and strong shadows)

we still felt we had seen at least 50% of the deer. This combined with increased deer signs in the recreation area led us to believe some of the deer might have escaped the enclosure. We learned how wrong we were when another flight on January 12, 1971, under ideal conditions of 12-18" of snow and a light overcast with no shadows, produced a head count of 27 and an estimated total of 30 deer in the enclosure. We prefer to keep the winter numbers in the enclosure at 20-25. Browse studies to determine carrying capacity are needed and can hopefully be carried out in 1971. The end-of-the year deer population on the entire preserve based on January 12, 1971, census flight was as follows:

Captive	: Unit I	- Main Enclosure	30
	Unit I	- Recreation Area	6
Wild	: Unit I	- Hay Meadow & Shore	4
	Unit II	-	5
			45

As discussed in the 1969 report, new blood should be introduced into the deer herd as was done with the buffalo and attempted with the elk. No new deer were introduced in 1970 but an effort will be made during 1971 to add new blood.

F. Fur Animals, Predators, Rodents and other Mammals.

1. Muskrats.

The muskrat population remains similar to that of 1969 and is relatively high. Five or more are often observed at one time near the goose feeder on Sweetwater Lake. The higher level of Devils Lake has resulted in 5-10 more acres of suitable marsh in Ft. Totten Bay.

2. Mink and Weasels.

No mink were observed but they are known to frequent Sweetwater Lake and Ft. Totten Bay. Long-tailed weasels were more numerous than last year. One was observed crossing the highway near the north gate and several others were seen in the general area.

Only one short-tailed weasel was observed and he proved to be a rascal. On December 13 the weasel was observed and photographed in a tree near the manager's residence. The next day the manager's wife happened to see the weasel in the garage. It had apparently been trapped the day before when the door was shut. Additional investigation disclosed that the weasel had built a nest on top the air cleaner of the manager's new car, tearing out hood insulation for nesting material. Using an improvised burlap net, the weasel was captured and kept for closer observation for a short time before being released. Indoors a weasel can raise quite a stink (literally) when a dog or cat gets too curious.

Short-tailed weasel with nest built under hood of manager's car. The weasel had even gone so far as to set up his toilet area. (at left of picture.)

Visitor reports on July 4 of dogs chasing deer in the enclosure resulted in disposal of these two on the same day and three more on July 7.

3. Beaver.

Unfortunately the two beaver in Sweetwater Lake proved to be incompatible with planned improvements to the picnic area. The beaver chose to eat the trees we wanted to keep. After over a month of fruitless live-trapping a 41-pound male was shot on October 22. The remaining beaver is still with us. A lone beaver was observed May 13 along the preserve shore of Ft. Totten Bay south of hiway 57. Beaver have also built a lodge on the small BIA pond just outside our main entrance.

4. Raccoons.

Though abundant at the beginning of the year the population at the end of the year was probably very low. An epidemic of distemper appears to have reduced raccoon numbers considerably.

5. Foxes.

The preserve numbers remain high. Sightings were common throughout the year and on the recent deer census flight alone 5 foxes were observed. There are several active dens in each unit. During the spring one active den was located only 100 yards from the manager's residence. On one occasion a fox traveling to this den was observed passing within 20 feet of the winter goose pen in plain sight of the geese. Neither the fox nor the geese displayed any interest in the other. No foxes were removed and no gray foxes were observed.

6. Dogs and Cats.

On July 4 several reports by visitors of dogs chasing deer in the enclosure resulted in disposal of 2 dogs on the same day and 3 more on July 7. One dog was shot earlier on April 28. On November 18 a dog chased a deer across the road in front of the manager's truck but was gone before a shot could be fired. These dogs are all local dogs that fend for themselves 90% of the time and cannot be captured.

During the fall a rash of feral cats appeared. From October 11 to December 29 five cats, all males, were shot and a friendlier three-month-old male was adopted.

7. Skunks and Badgers.

The striped skunk population appears to be higher than last year. Several were observed in the enclosure and one in the headquarters area. Road kills were common along highway 57. No badgers were observed.

8. Rabbits and Hares.

Cottontail numbers increased from 1969. They were abundant in the headquarters area during the summer and were still producing at the end of August. On August 31 a nest was found in the goose pen containing 6 young ones less than two weeks old. No jackrabbits or snowshoes were observed.

9. Squirrels.

Both gray and fox squirrels were abundant with the gray to fox ratio about 3:1. Acorn production was good for the first time since 1959, and probably contributed to the increase. Mating chases were first observed on February 22. At least 15 gray squirrels were produced in the immediate headquarters area, 3 litters of 4 and 1 litter of 3. A black squirrel first seen November 12 has since been seen on numerous occasions in the picnic and headquarters areas. Judging from the animals size it was probably born in 1970. This melanistic phase has occurred here several times in the past, but this is the first observation since 1956.

10. Woodchucks.

The population is low with only a few sightings in the headquarters and recreation areas during the year. No active dens were known.

G. Fish.

Numbers of fathead minnows and sticklebacks in Sweetwater Lake were high and attracted a variety of birds. At least 13 species of birds including robins were observed dining on fish. Children were often seen feeding bits of bread to swarms of minnows.

H. Reptiles and Amphibians.

Plains garter snakes were abundant and red-bellied snakes were common. One smooth green snake was observed in the former grazing area of Unit II. Painted turtles, leopard frogs and wood frogs were common.

I. Endangered Species.

1. Rare and Endangered. None.

2. Peripheral. None.

3. Status Undetermined.

A lone ferruginous hawk was observed June 2 sitting on a fence post at the goose pen. Six ospreys were observed on the preserve - 4 during the spring and 2 during the fall. The observations are listed in section C-2.

J. Disease.

A minor outbreak of Type C Botulism occurred on Ft. Totten Bay in late August and early September. Several sick birds were collected on East Bay of Devils Lake and Ft. Totten Bay, taken to Northern Prairie Wildlife Research Center for testing and found positive for Type C Botulism. The rising level of Devils Lake has flooded several hundred acres of old lake bottom to depths of 6" to 12". With little wave action these acres become fertile ground for a botulism outbreak. Relatively few ducks were affected and probably less than 200 died. No sick birds or carcasses were found on the preserve.

On October 22 a sick raccoon was collected and its disease diagnosed by a veterinarian to be distemper. The animal was nearly blind with large amounts of pus in both eyes. A rabies test was negative. On November 12 another raccoon in similar condition was killed. It is believed that a distemper epidemic decimated the local raccoon population.

The one heifer buffalo calf was vaccinated for brucellosis on November 20. All butchered animals were blood tested for brucellosis and all tests were negative. North Dakota has now been certified to be brucellosis free.

The second of two raccoons found to have distemper. Note the pus in its eyes.

III. DEVELOPMENT AND MAINTENANCE

A. Physical Development.

In addition to many hours spent on road grading, snow removal, vehicle maintenance (both Sullys Hill and Devils Lake WMO), litter cleanup and a multitude of minor jobs the following noteworthy developments were accomplished:

1. Headquarters Area.

   a. Office-Shop Building. The exterior of the building was painted and the office remodeled. Office remodeling included installation of new combination windows, acoustical ceiling tile and recessed lighting. The floor was retiled, walls panelled and 2 bookcases, a table and new chairs acquired from GSA. All electrical outlets in the building were changed to the grounded type and 3 new ones added. Fluorescent light fixtures from the office were installed in the shop. Drop cords were removed from the attic and approved fixtures installed. Eaves troughs were installed across the front of the building and above the back door.

   b. Quarters # 1. Kitchen sink plumbing replaced and one electrical outlet added.

   c. Quarters # 2. Additional laundry plumbing was installed. Electrical work included installation of a new 80-gallon water heater, 2 additional outlets upstairs and 3 in the basement, a 220 v. outlet for the clothes dryer, replacement of the bathroom light fixtures and wiring of the garage.

   d. Seed Storage Building. A 20X24' Butler steel building was purchased by the Devils Lake WMO for storage of native grass seed and erected at Sullys Hill. Site preparation, construction of the concrete slab and assembly of the building were completed by Sullys Hill personnel.

   e. Barn. The east and west walls were pushed back into place and anchored to prevent spreading. The 10' overhead door was changed to a sliding door and a 6'X12' concrete apron built in front of the entrance.

   f. Machine Shed. Electricians installed 4 approved fixtures to replace old drop-cord lights, installed 2 outlets and replaced lead-in wires to the building.

g. The old boneyard was cleaned up and reorganized into a storage area for Sullys Hill and Devils Lake WMO supplies. A new boneyard was established near the dump.

h. The old dump pit was covered and a new one dug.

i. Approximately 60 cubic yards of fill and gravel were hauled to build a 4-car parking area at the office.

j. The underground wiring was replaced between the office and gas pump.

k. The garden shed behind Qtrs. # 1 was moved next to the oil house and converted to a tool shed.

l. The goose pen was enlarged to twice its previous size.

m. A 20' long vehicle service rack was built.

n. The entrance cattle guard was cleaned out, support beams replaced amd the rails welded to prevent movement and facilitate future handling.

o. The North Dakota Telephone Company took over phone service. Underground lines and new telephones were installed replacing the unreliable BIA "service." (This was possibly the most welcome development of 1970!)

p. Built 2 speed control bumps on entrance road with warning markers.

2. Recreation Area.

a. Began renovation of picnic area. Work included:
   (1) Brush, tree and old litter removal and mowing.
   (2) Construction of 4 parking areas.
   (3) Erection of bumper posts along road and around parking area to con trol parking.
   (4) Cleaned and painted 10 steel fire grills.
   (5) Painted approximately 20 picnic tables.

b. Constructed an 88' long waterfowl observation deck (flooring to be laid in spring of 1971) and interpretive materials to be added.

c. Constructed 20' steel entrance gate.

d. Cleared additional ½ mile of nature trail.(1 mile overall length)

e. Removed approximately ½ mile of obsolete big-game fence and salvaged posts.

f. Removed 2 small contact stations after repeated vandalism.

g. Built and erected 2 leaflet dispensers.

h. Removed several dead trees (widow-makers) from the recreation area.

3. Big-Game Enclosure.

a. Rebuilt 200' section of tour road and added new culvert.

b. Soper Brothers Construction Co. of Devils Lake screened, hauled and spread 1000 cubic yards of gravel from the preserve pit on 2 miles of tour route and entrance road, and stockpiled another 500 cubic yards of screened gravel. New gravel was bladed by preserve personnel.

c. Cleaned out entrance cattle guard and replaced rails using heavier bolts.

d. Rebuilt hay pen.

e. Erected 5 chain gates to control vehicle trespass.

f. Replaced south hay pen gate destroyed by buffalo and repaired highway and north hay pen gates damaged by hay mover.

g. Considerable amount of downed wood cut into firewood by Indian crew and given to local residents.

4. Equipment.

a. TD-6 tractor main and steering clutches overhauled and new radiator and brake linings installed by local IHC shop.

b. Sears lawn tractor engine overhauled.

c. Roll bar built and mounted on Ferguson tractor.

5. Major Equipment acquired During 1970.

a. 1970 Dodge 4 x 4.

b. 1957 Caterpillar # 12 road grader (Miltary Surplus).

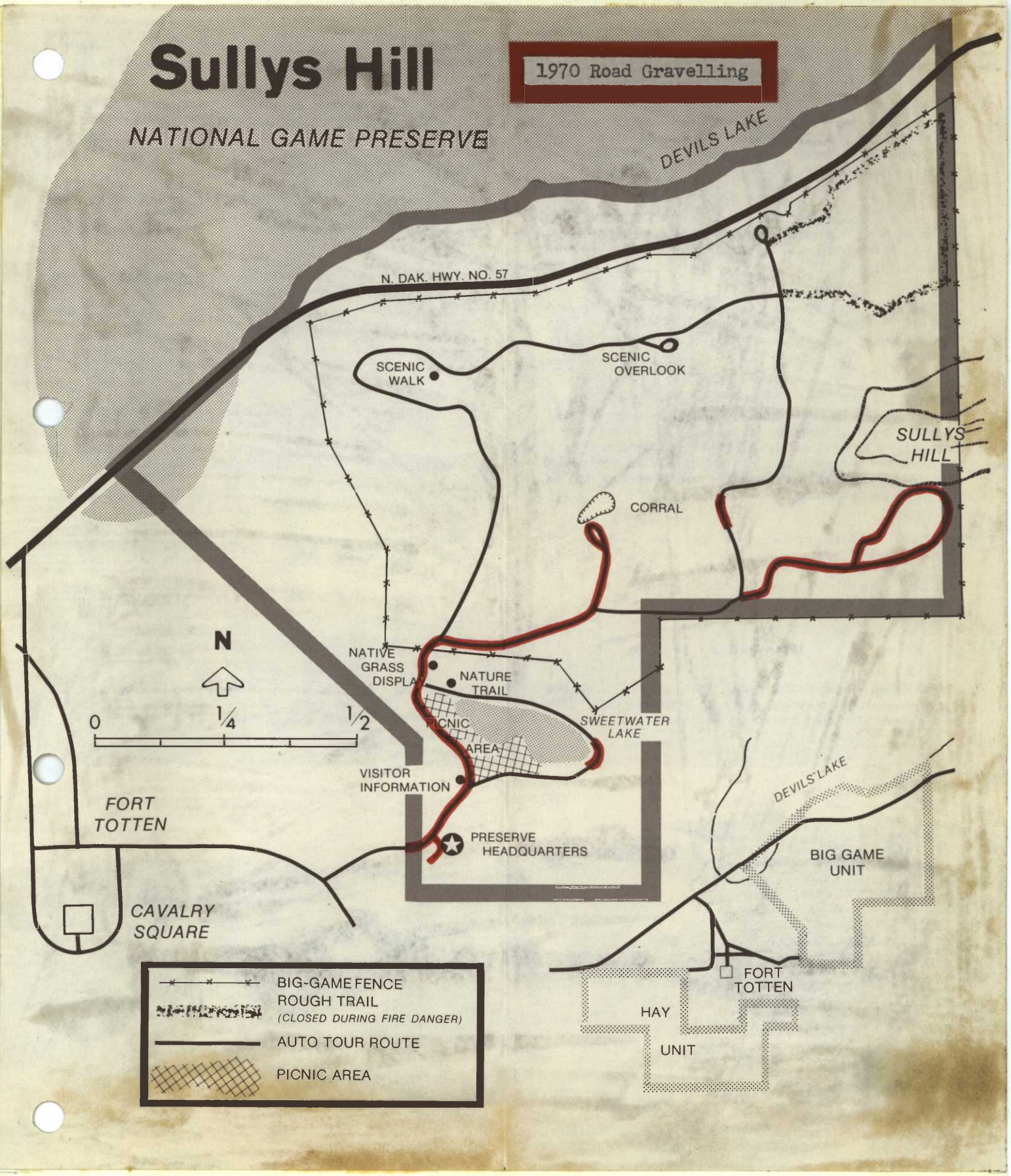
c. John Deere 127 Gyramor 5' rotary cutter.

Construction of a 20 x 24' steel grass seed storage building purchased by the Devils Lake WMO and erected at Sullys Hill.

The finished product.

Remodeling of the office greatly improved its appearance and made it much more functional.

An 88' long waterfowl observation deck was constructed on the shore of Sweetwater Lake. (The floor will be laid in the spring of 1971 and interpretive materials will be added.) During most of the year the lake level will be higher and the deck will be standing in water.


Sullys Hill
NATIONAL GAME PRESERVE
1970 Road Gravelling
DEVILS LAKE
N. DAK. HWY. NO. 57
SCENIC WALK
SCENIC OVERLOOK
SULLYS HILL
CORRAL
N
0
1/4
1/2
NATIVE GRASS DISPLAY
NATURE TRAIL
PICNIC AREA
SWEETWATER LAKE
VISITOR INFORMATION
PRESERVE HEADQUARTERS
FORT TOTTEN
CAVALRY SQUARE
DEVILS LAKE
BIG GAME UNIT
FORT TOTTEN
HAY
UNIT
BIG-GAME FENCE
ROUGH TRAIL
(CLOSED DURING FIRE DANGER)
AUTO TOUR ROUTE
PICNIC AREA

B. Plantings.

1. Aquatics and Marsh Plants. None.

2. Trees and Shrubs. None.

3. Grasslands.

The 30 acres of oats stubble in Unit II were seeded to native grasses in October by Devils Lake WMO personnel using Devils Lake seed.

4. Cultivated Crops.

Thirty acres of oats were planted in Unit II by permittee Bjarne Knutson. The yield was 30 bushels per acre and the preserve share totaled 300 bushels. The grain is used to feed the captive waterfowl flock and for big-game cubes.

C. Collections and Receipts. None.

D. Control of Vegetation. None.

E. Planned Burning.

1. General.

The only burning attempted was on the former 160-acre grazing area in Unit II. A burn attempted there in 1969 failed due to the lack of fuel after the previous heavy grazing. The purpose of the burn was to reduce bluegrass and buckbrush and encourage growth of native grasses.

2. Conditions prior to burning.

Permittee grazing was eliminated at the end of 1968. By the end of 1969 there was enough accumulated fuel in most sections to carry a fire. In some areas bluegrass mats were several inches thick and buckbrush (mostly wolfberry with some buffaloberry) covered much of the area.

3. Conditions following burning.

Burning was conducted on three different days - May 22, 26, 27. The area was backfired into the wind in accordance with the approved plan, but this was a time-consuming method and resulted in a final burn of only 55 acres. There was enough fuel over most of the area to carry a good slow fire. Vegetation on several hilltops was still too thin to burn. The burn killed 90-100% of the standing wolfberry but did not affect the buffaloberry. By the end of June almost all the wolfberry was resprouting. Native grass species appeared to be encouraged but no detailed data was collected.

F. Fires.

No wild fires occurred on the preserve during 1970, but a fire burned about 20 acres of BIA land just outside the preserve entrance and other fires occurred in the area. On May 6 preserve personnel assisted the BIA in putting out a fire that burned about 80 acres. of underbrush on the Sullys Hill ridge ¼ mile east of the preserve.

IV. RESOURCE MANAGEMENT

A. Grazing. None.

B. Haying.

Hay production was good and required only one cutting. The one cutting produced a total of 300 tons compared to the total of 170 tons in 1969 with two cuttings. Production included a total of 29 stacks in Unit II-a, 3600 bales in II-b and 600 bales in the Unit I hay meadow. The refuge share was 20 stacks and 1200 bales.

The permittee was allowed a late cutting on 50 acres of alfalfa in Unit II which produced 40 tons of hay. In return, he will cultivate the alfalfa in the spring of 1971 to reduce competition of grasses. No share of this hay was taken.

C. Fur Harvest. None.

D. Timber Removal None.

E. Commercial Fishing. None.

F. Surplus Animal Disposal.

All surplus big-game animals are disposed of as carcasses sold to service clubs and organizations only. They are field-dressed by preserve personnel and delivered to the desired processor in Devils Lake or picked up at the preserve by the buyer. Prices in 1970 were $280 for buffalo and $110 for elk. Deer carcasses were donated to the State School for the Deaf at Devils Lake.

1. Buffalo.

10/26	½	2 yr. M	Drayton C of C	546#	$140.00
	½		Buffalo Lake S. Club		140.00
10/27	1	"	Minot K of C	504#	280.00
11/3	1	"	Valley City Lions	420#	280.00
11/6	1	"	Sheyenne Valley R & G	474#	280.00
	½	"	Lakota Wildlife Club	490#	140.00
	½		Wolford Wildlife Club		140.00*
1/21	1	"	SDSU Wildlife Club	400#	224.00
				(Ave. 472#)	$1624.00

Field-dressing one of eight elk removed during 1970. All surplus buffalo and elk are sold to area service clubs and organizations. Deer were donated to the North Dakota School for the Deaf at Devils Lake.

OFFICIAL RECEIPT for donation of $1.25 to the

Fish Lake Wildlife Club

13th ANNUAL ELK FEED

HARLOW, NORTH DAKOTA

Saturday, December 5, 1970

Serving 5:30 p.m. to 8:30 p.m.

DOOR PRIZES: $15.00 - $10.00 - $5.00

Advance Ticket Sale 1.25; at door 1.50

Holder Need Not
Be Present To Win.

No. 54

The carcasses are generally used for fund raising projects by the purchasing organization.

12/31	1 hide	Bill C. Davis, Devils Lake		5.00
1/3	1 hide	Monte Jerstad, Devils Lake		5.00
			Total	$1629.00

* Price reduced, underweight animal.

2. Elk.

10/27	1	1 yr. M.	Devils Lake Elks Club	274#	$110.00
10/29	1	"	Bottineau Wildlife Fed.	280#	110.00
10/30	1	5 yr. F.	Dakota Rifle & Pistol	311#	110.00
11/10	1	4 yr. F.	Fish L. Wildlife Club	353#	110.00
	½	"	" " " "	284#	55.00
	½	"	Lehr Wildlife Club		55.00
11/11	1	4 yr. F.	" " "	?	110.00
11/12	1	? yr. F.	Maddock Wildlife Club	332#	110.00
11/19	1	1 yr. M.	Sheyenne Wildlife Club	210#	110.00
	8			(Ave. 292#)	$880.00
1/3	2 hides	Monte Jerstad, Devils Lake			5.00
				Total	$885.00

3. White-tailed Deer.

During the fall 5 deer, 3 bucks and 2 does, were removed and donated to the North Dakota School for the Deaf in Devils Lake.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Forest Tent Caterpillar Defoliation.

Forest tent caterpillar defoliation occurred for the second year since the current outbreak began in 1969. The chronology of 1970 events was as follows:

May 22 Inspection of the north part of the preserve with NDSU entomologist Dr. Richard Frye indicated eggs laid in 1969 were viable and in the process of hatching.

June 20 Approximate date pupation began. Defoliation had reached its peak.

June 22 Mapping of the defoliation area of the preserve indicated 245 acres of heavy damage including 110 acres of 90-100% defoliation (see map). Caterpillars were found throughout the remainder of the preserve including the recreation area and headquarters, but damage in these areas was negligible. Heavy damage extended east of the preserve one mile to the ski jump.

June 23 NDSU belatedly made test sprayings of a bacterial control agent as a study on BIA land east of the preserve. More tests will be made in 1971.
July 16 Adult moths were beginning to emerge.

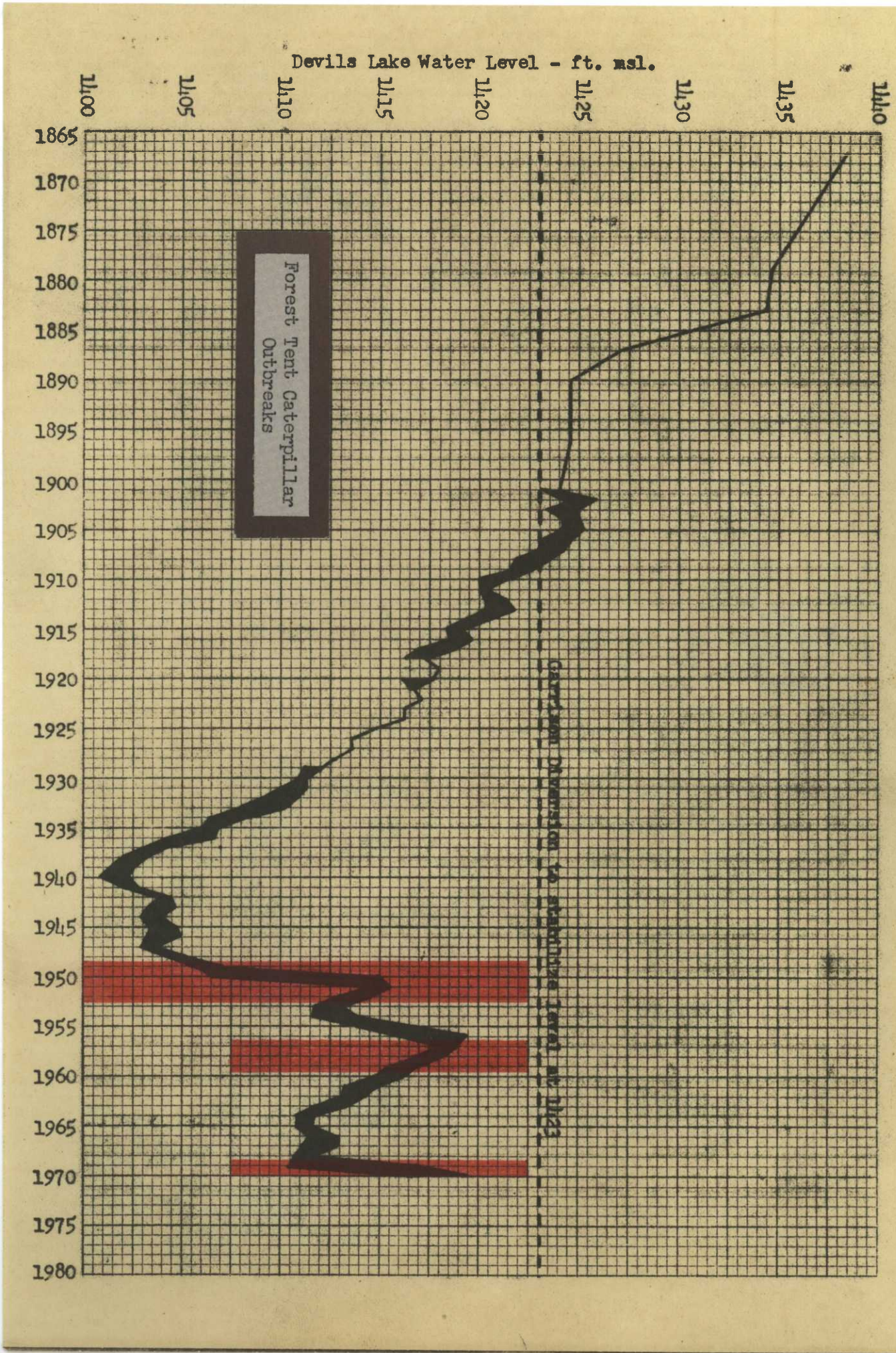
The primary tree species affected were basswood and American elm but green ash, aspen, choke cherry and even buckbrush suffered slight to heavy damage. Although isolated bur oak in mixed stands of the other species suffered damage, solid stands of bur oak were unaffected and appeared to serve as barriers against the spread of caterpillars from the areas of heavy damage. Box elder trees even in areas of heaviest damage were untouched. This works to the tent caterpillars' advantage in that it gives them a place to bind leaves together in forming their cocoons. Box elder trees in the area each held thousands of cocoons.

This year a new twist was added. On August 17, when the trees should have been refoliated, it was noticed that many of the trees not only had not recovered but appeared to be being stripped again. Specimens of a new caterpillar collected at the time were identified by NDSU entomologists as variable oak leaf caterpillars. Found throughout the preserve their damage was significant only in the area already affected by the tent caterpillars. Contrary to their name they seemed to prefer the same trees as the tent caterpillars and caused 25-50% defoliation in some areas before they were stopped by the September 13 frost. The oak leaf caterpillars do not begin their feeding cycle until late June which coincidentally is about the time the tent caterpillars go into pupation.

In the opinion of the NDSU entomologists and area forester, R. Johnson, neither the effects of the tent caterpillars nor the combined effects with the oak leaf caterpillar immediately threatened to kill trees. Although there was a definite loss of esthetics, particularly along the tour route, chemical control was not allowed or desired and not enough is known about the bacterial control agent at this time.

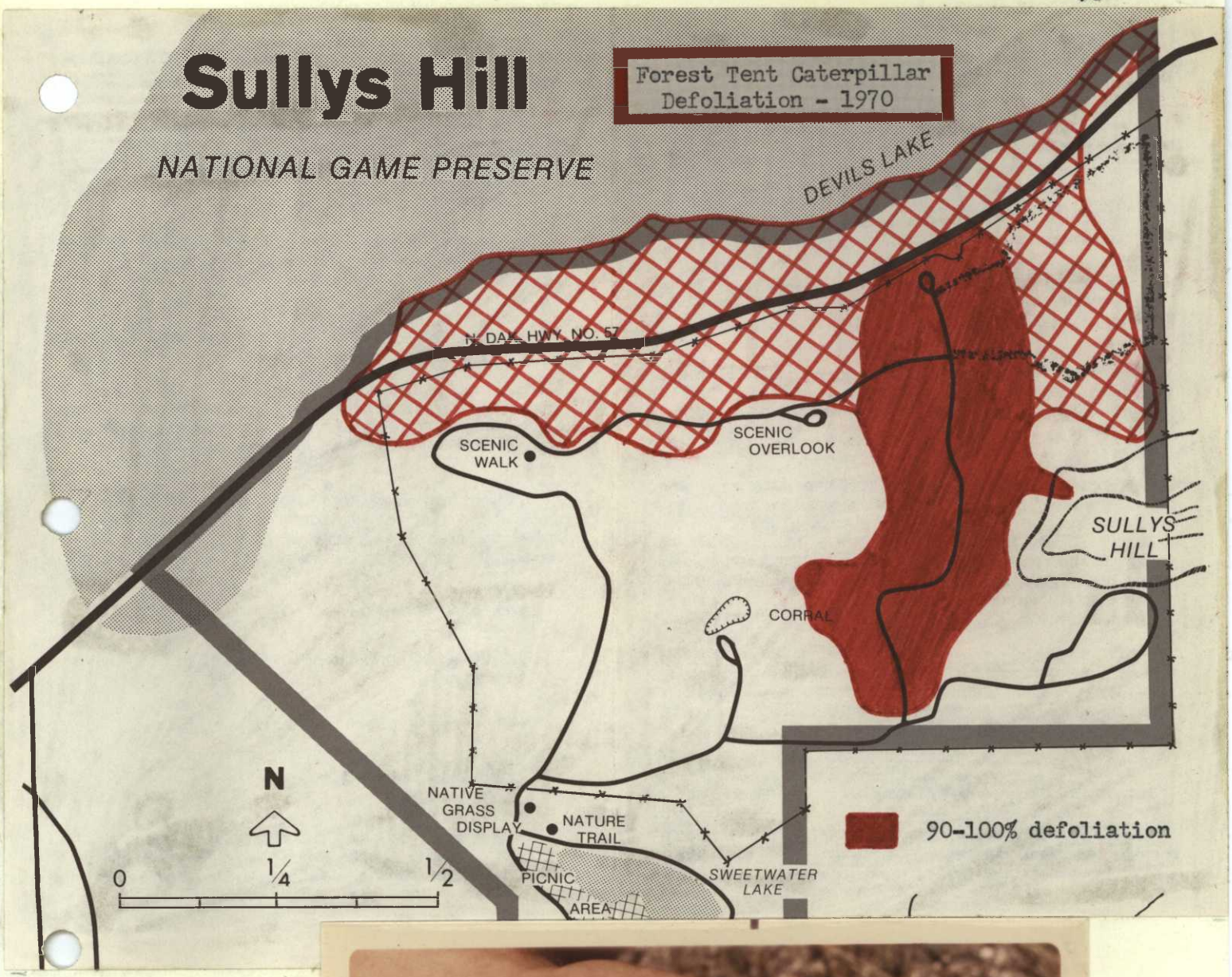
Historically there were two recorded outbreaks of forest tent caterpillars prior to the present one and all occurred in the same 2-mile-long area. Previous outbreaks occurred from 1949 to 1952 amd from 1957 to 1959. The present one began in 1969. The first two outbreaks were not allowed to run full cycle but were stopped by aerial application of DDT in 1951 and 1952 and in 1958 and 1959. When the dates of the outbreaks are compared with the Devils Lake water levels graphed in section I-C, there appears to be a striking relationship between the recent periods of high water and the outbreaks of tent caterpillars.

The initial thought was that since the lake level reflects precipitation in the Devils Lake Basin the outbreaks were possibly related to precipitation. Examination of the weather records for the Devils


Devils Lake Water Level - ft. msl.
1400
1405
1410
1415
1420
1425
1430
1435
1440
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
Forest Tent Caterpillar Outbreaks
Control Elevation 1423

Sullys Hill

NATIONAL GAME PRESERVE



Tent caterpillar defoliation caused a definite loss of esthetics along the auto tour route.

Part of the area of heavy damage looking east across the valley to Bullys Hill. Normally not visible from this point the tour route crossing horizontally through the middle of the picture

Lake station does not seem to uphold this theory. These possible relationships were first noticed during the preparation of this report and will be investigated further.

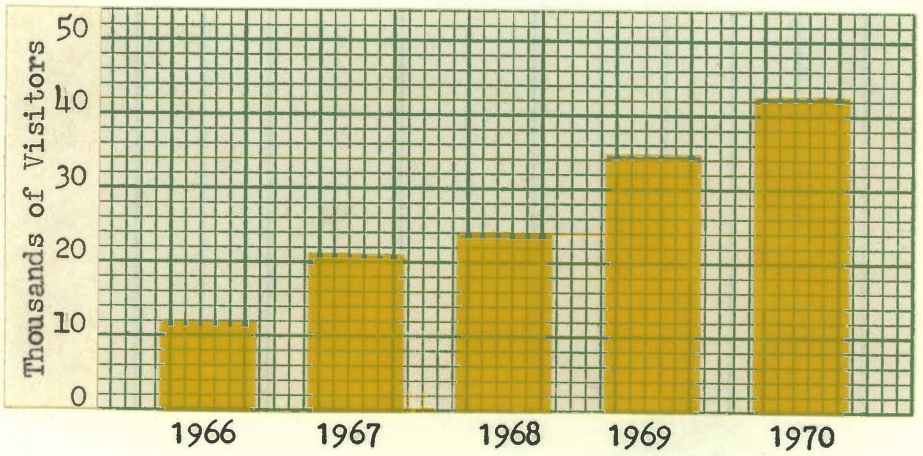
VI. PUBLIC RELATIONS

A. Recreational Uses.

With the preservation of buffalo, elk and white-tailed deer assured in the nation, Sullys Hill was scheduled for closing in 1965. The resulting public outcry effected a reevaluation of Sullys Hill, and resulted in the preserve's continuation based largely on its public use. Management emphasis has now switched from chiefly preservation to emphasis on outdoor education and wildlife-oriented recreation. A definite measure of the success of this management is the amount of visitor use in close conjunction with the quality of the educational-recreational opportunities provided.

Total recreational visits for the preserve during 1970 were 42,400, an increase of 22% over 1969 and an increase of 107% over 1967, when the self-guided tour route was first opened. The accompanying graph illustrates the increase in public use since the 1966 low when Sullys Hill was a fee area, tours were still on a guided basis only and the primary use was picnicking.

Five-Year Visitor Summary

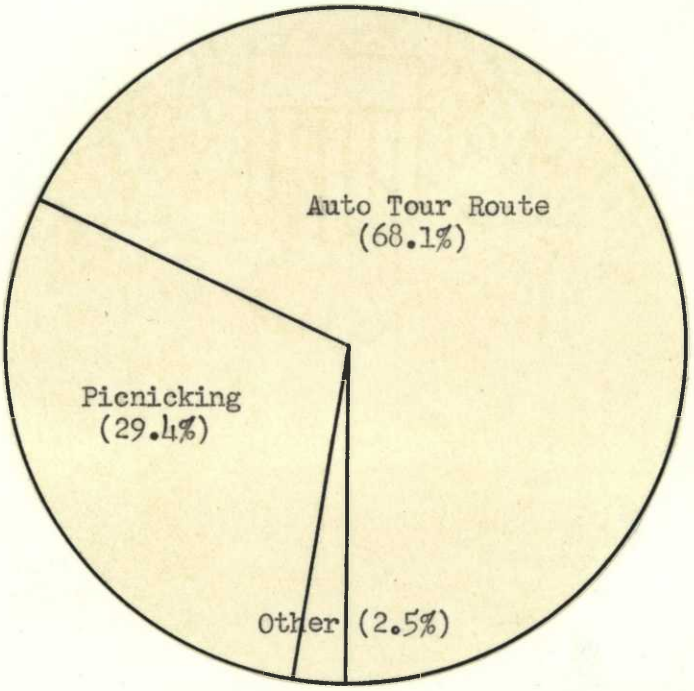


1970 Summary for Primary Visitor-Use Months

	April	May	June	July	Aug.	Sept.	Oct.
Visitors:	160	4,985	7,932	13,762	7,797	4,525	3,107
Peak Day:	60	723	932	2,631	845	754	667

The visitor figures are based on data provided by an automatic traffic counter that counts all cars entering the area. Several checks made during the year confirmed the accuracy of the 4.5 visitor-per-car figure used during the past three years. The peak visitor day during 1970 occurred on July 26, the last day of the annual Ft. Totten Days Indian celebration, when 2,631 people visited the preserve.

During 1970 the primary visitor use of the preserve was travelling the self-guided auto tour route. Over 37,300 visitors (88.1%) used the tour route and over 6,100 (14.5%) enjoyed picnics. Many people did both. The following graph illustrates use of the preserve based on visitor-use hours as recorded on the monthly recreational use reports.



Interpretive development has been directed primarily at users of the auto tour route. During 1970 several stations on the route were changed and the tour leaflet was revised. The new leaflet (copy attached) is designed for use with paper towel type dispensers, one of which was built and put at the beginning of the tour route. This combination of leaflet and dispenser worked extremely well and made the once common littering of the area with leaflets a thing of the past.

A major effort was made to renovate the picnic area and develop interpretive facilities aimed at picnickers who account for 29.4% of the total visitor use hours.

A portion of the evergrown picnic area before renovation. Sweetwater Lake is about 30 yards to the left of the road but cannot be seen through the brush.

Same area on a busy weekend following brush removal. Construction of parking areas has since eliminated the random parking seen in the picture.

In addition to the new auto tour leaflet a new preserve leaflet was printed (copy attached) and the preserve's first official birdlist was compiled and printed (copy attached section II-D). New entrance, highway recognition and directional signs were delivered at the end of September and will be erected in 1971.

The problem of midnight visitors and drinking parties was eliminated with construction of a steel gate at the entrance to the recreation area. The gate is locked nightly at dark during the visitor season. The problem of visitors driving too fast through the headquarters area was solved with the construction of two speed control bumps with warning markers. The bumps can be taken comfortably in the average car at 15 mph but cause uncomfortable bumps at higher speeds.

Considering the large numbers of people who annually visit Sullys Hill and the somewhat tainted Bureau image in the area, there is tremendous potential for improving the Bureau's image through visitor contact at this station. Present interpretive facilities are limited to telling the story of Sullys Hill and do not convey the full story of the Bureau of Sport Fisheries and Wildlife. A visitor contact station with well designed interpretive facilities is badly needed and for a modest sum of money could produce fruitful results. It is hoped a project of this nature can be carried out during 1971. Presently all the people get is what they read in the leaflets.

B. Refuge Visitors.

Date	Name	Affiliation	Purpose
5/13	Wm. Branvic	State Ent. Fargo,N.D.	Tent caterpillars
5/18	Wm. Bair	BSFW, Towner, N.D.	Control burning
5/19	J. Winship	BSFW, RO, MPls. Mn.	Easement pair count
5/22	Dr. R. Frye	NDSU, Fargo, N.D.	Tent caterpillars
6/7	M. Barton	Devils Lake Journal	Photo story
6/8	Dr. R. Frye & students	NDSU, Fargo, N.D.	Tent caterpilars
6/9	E. Weeds	ND Hiway Dept. D.L.	Gravel inquiry
6/10	M. Barton	Devils Lake Journal	Photo story
6/10	R. Beranek	Devils Lake Journal	Photo story
6/11	T.M. Carter	FWQA, Kansas City, Mo.	Waste treatment
6/11	D.G. DeRuiter	FWQA, Kansas City, Mo.	Waste treatment
6/16	M. Barton	Devils Lake Journal	Buffalo Release
6/16	R. Beranek	Devils Lake Journal	Buffalo release
6/24	Wm. McClure	BSFW, Bismarck, N.D.	GMA car storage
6/24	R. Rollings	ND Game & Fish, D.L.	GMA car storage
6/25	C. Stephan	BSFW, RO, Mpls, Mn.	Waste treatment facil.
7/1	L. Reynoldson	BSFW, Minot, N. D.	GMA car
7/10	Wm. Bair	BSFW, Towner, N.D.	Control Burning
7/13-14	J. Winship	BSFW, RO, Mpls, Mn.	Easement brood count

Closing of this recreation area gate at night has eliminated our night visitor problem.

Construction of two of these gentle speed control bumps has successfully eliminated much of our visitor speeding problems.

The revised auto tour leaflet with its paper towel type dispenser was well received and eliminated the once common littering of the area with leaflets.

The new entrance sign (mimus the top board) supplied by the Region III sign shop at Upper Miss. NWR will replace the present painted rock sign in 1971.

7/20	F. Craig	Sand Lake NWR	Deliver lumber
7/29	C. Stephan	BSFW, RO. Mpls, Mn.	Waste treatment facil.
7/30	D. Umberger	BSFW, RO. Mpls, Mn.	L. Alice inspection
7/30	H. Stiles	BSFW, CO, Wash. D.C.	L. Alice inspection
7/30	J. Lundeen	BSFW, CO. Wash. DC.	L. Alice inspection
8/5	Mr.& Mrs Paul Mellott	USDI, Washington, D.C.	Tour
8/14	A. Kruse	Arrowwood NWR	Tour information
8/15	R. Fields & family	J Clark Salyer NWR	Courtesy visit
8/24	Wm. Branvic	State Ent.Fargo, N.D.	Oaf leaf caterpillar
8/27	C. Brashears	BSFW, Mpls, Mn.	Waste treatment facil.
9/2-3	W. Jacobson	BSFW, Mpls. Mn.	Waste treatment facil.
9/2	Dr. R. Frye	NDSU, Fargo, N.D.	Oak Leaf Caterpillar
9/30	R. Johnson	Tamarac NWR, Minn.	Defoliation inspec.
9/30	Dr. R. Frye	NDSU, Fargo, N.D.	Defoliation inspec.
10/16	E. Dornfeld	Audubon NWR	Courtesy visit
10/19	J. Wolski	Arrowwood NWR	Borrow TD-6
10/21	P. Mellott	USDI, Washington D.C.	Courtesy visit
11/3	C. Peters	BIA, FT. Totten, N.D.	Area planning
11/3	S. Sennert	NDSU, Fargo, N.D.	Area planning11
11/6	R. Lysne	Arrowwood NWR	Return TD-6
11/17	J. Carlsen	BSFW, RO. Mpls, Mn.	Inspection
12/22	F. Craig	Sand Lake NWR, S.D.	Deliver Cat # 12 grader

The following were frequent visitors during the year.

Tom Sechrist, BSFW, USGMA, Devils Lake, N.D.
Jerald Shoemaker, BSFW, Wildlife Services, Lakota, N.D.
Local BIA & OEO personnel, Ft. Totten, N.D.
Local trappers, permittees and neighbors.

C. Refuge Participation.

1/30	Goeke presented two showings of the film "So Little Time" to 135 students and faculty at N.D. School for the Deaf at Devils Lake.
2/25	Nelson presented films"Cry of the Marsh" and "The Canvasback" to Devils Lake International Order of Odd Fellows (40 attended).
2/26-27	Goeke attended Starkweather Watershed meeting at NPWRC, Jamestown, N.D.
3/4	Nelson presented film "Way of Life" to Devils Lake IOOF (35 attended).
3/11	Goeke attended public meeting on Starkweather Watershed in Devils Lake.
3/23-24	Goeke & Nelson attended law enforcement meeting conducted by U.S. Attorney, Harold Bullis, at Ft. Totten, N. D.

4/14-16 Goeke attended Fire Ecology and Man-made Wetlands for Wildlife in Jamestown.
7/15 Goeke presented talk and tour to 40 children and sponsors of NDSU Expanded Nutrition Day Camp.
8/14-15 Goeke & Nelson attended summer meeting of N. Dak. Chapter of the Wildlife Society at Devils Lake.
8/20-21 Goeke attended Systems Management workshop at Jamestown.
9/23 Goeke attended Wetlands Management meeting in Minot.
9/28 Goeke & Nelson attended 1970 Hunting Regulations meeting in Jamestown.
11/3-4 Goeke attended N. Dak. Bureau conference in Jamestown.

During the year three news releases were prepared and appeared in local newspapers.

Manager Goeke and Biological Technician Nelson are members of the Ft. Totten Volunteer Fire Department and the Lake Region Sportsmens Club. Nelson is also active in the International Order of Odd Fellows and the Sons of Norway, both in Devils Lake.

D. Hunting. None.

E. Violations.

Only one violation on the preserve was prosecuted. On July 19 Warren L. Stenhjem, 20, of Devils Lake was stopped by Manager Goeke for vehicle trespass with his motorcycle. Stenhjem was fined $25. in U.S. Commissioners Court.

On September 28 Mrs. Gloria Borstadt, a Devils Lake school teacher, drove her foreign car under a locked chain gate near the corral. Within 100 yards of the gate she hit a rock and suffered $65 damage to her car. A warning was issued but the case was not prosecuted as it was felt she had learned her lesson.

Numerous warnings were issued for speeding but no cases were prosecuted because actual speeds were not measured. Construction of speed control bumps on the entrance road eliminated most of the problem.

One hunting violation was initiated by preserve personnel. On October 18 Raymond Ledin of Minneapolis, Minn. was apprehended at Ziebach Pass by Manager Goeke for attempting to take whistling swans. Ledin was found guilty in U.S. Commissioners court but was fined only $25.

Goeke and Nelson working with Devils Lake WMO personnel and USGMA Sechrist assisted on several other cases as reported by the Devils Lake WMO.

F. Safety.

During the year there were no lost-time accidents or vehicle accidents by Sullys Hill personnel, NYC's, or tribal welfare employees. The station record at the end of the year was 2,207 calendar days without a lost-time accident to Bureau employees. Beginning in May safety meetings were held in conjunction with the Devils Lake WMO. The following safety meetings were held during the year.

1. Safety Meetings.

1/5 Coordinated meeting with WMO and Wetlands Office. R. Brasch showed film "Silent Witness" and discussed alcohol and driving fatality statistics.
5/28 Meeting at WMO. Swenson led discussion on recognizing and reporting safety hazards.
6/29 Meeting at Sullys Hill. Swenson led discussion on general work safety.
9/8 Meeting at WMO. Goeke led discussion on vehicle accident packets and accident reporting.
10/2 Meeting at WMO. The filmstrip "Perception of Driving Hazards-Part I" was shown and discussed.
10/23 Meeting at WMO. The filmstrip "Perception of Driving Hazards-Part II" was shown and discussed.
12/3 Meeting at Sullys Hill. Goeke led discussion on snowmobile safety and Nelson demonstrated emergency repairs.
12/14 Meeting at WMO. The filmstrip "Perception of Driving Hazards-Part III" was shown and discussed.

2. Safety Accomplishments.

All recommendations from Regional Safety Officer Miller's July 19, 1969, inspection were complied with and completed.

1. Ferguson tractor equipped with roll bar and seat belts.
2. Recommended rewiring in office, shop and machine shed completed.
3. Old boneyard reorganized and new one established.
4. New fluorescent lights installed in office and old ones mounted correctly in shop.

In addition an interchangeable mowing screen was constructed for use on the John Deere 2010 and JD-300 tractors, a number of large dead trees (widow makers) were removed from the picnic area and all personnel acquired safety-toed boots.

VI. OTHER ITEMS

A. Items of Interest.

A great deal of the work accomplished during the year was carried out by our crew of Neighborhood Youth Corps boys whose ages ranged from 14 to 17 years old. All the boys were local Indians except one and he was part Indian. They contributed significantly to (1) construction of the slab and erection of the steel grass seed building, (2) brush removal in the picnic area, (3) refencing the hay pen, (4) Overhaul of the entrance cattle guard, (5) fence removal, (6) maintenance of the picnic grounds and a multitude of lesser jobs. The boys worked a 32-hour week and were paid by OEO. Preserve personnel provided supervision.

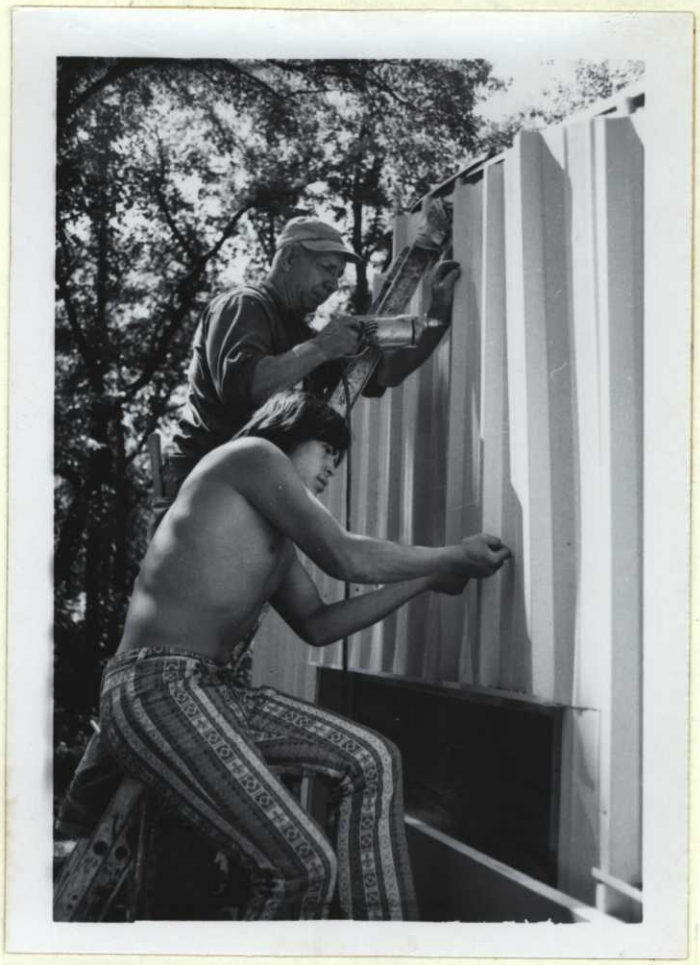
The NYC program has proven its value at this station. Given adequate supervision, these boys can supply much of the needed manpower that we cannot afford to hire. One of the boys, Eric Longie, has worked here for three summers and has proven to be a good worker and a fine welder. After he finished his maximum number of hours with the NYC program for the summer he was hired as a regular laborer until school started. At 17 and a high school senior this year, he will be ineligible for the program in 1971. It is hoped that we will be able to hire him as a regular laborer during the summer. This will provide us with a good man and serve to illustrate the potential of the NYC program.

Much preserve work was also accomplished by Devils Lake WMO personnel, Mike Floyd, Ray Parsons, Roger Johnson and Pat Klier. Mike mowed 25 acres of brush in the enclosure, seeded 30 acres of native grasses in Unit II, and carried out a number of odd jobs. Ray Parsons in particular provided much of the NYC work crew supervision.

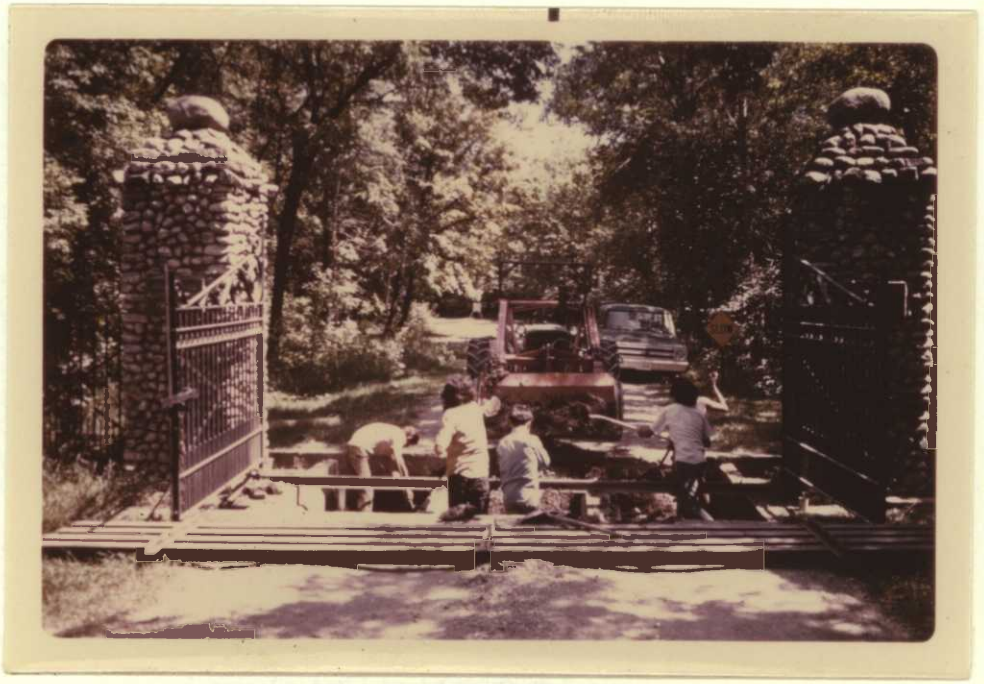
In addition to the activities already reported, Sullys Hill personnel assisted Devils Lake WMO personnel with checking the posting on Stump Lake NWR and 14 easement refuges, with work on the Howitz WPA, with the aerial easement compliance check and the follow-up violation checks, operated the Lake Alice NWR water control structure and monitored Lake Alice water levels.

On January 7, 1970 the preserve's people herd was increased with the birth of James Andrew Goeke. Jimmy is the Goeke's first child and the first grandchild for either side of the family. This accomplishment attracted a host of visiting relatives and accounted for a share of the preserve's visitor increase.

On January 17, 1970, the Nelson's son Darryl married Nancy Neumann of Minneapolis, Minnesota. Even though the wedding day was one of the coldest of the year with the temperature in the -30s no one paid much attention to the cold. Darryl and Nancy now live in Norwood, minnesota, where Darryl teaches physical science.



Our crew of Neighborhood Youth Corps boys contributed a great deal to the work accomplished in 1970. Here Alfred Littlewind helps Everett Brash with construction of the grass seed building.



Roger Johnson (at l.) of the Devils Lake WMO and a crew of NYCs working on the entrance cattle guard.

B. Credits.

David E. Goeke - Prepared and assembled the entire report and took all photographs.*

Omer N. Swenson - Edited entire report.

Mary C. Pake - Typing.

* Many of the photographs lost detail and color when the prints were made from the original slides.

Submitted by:

David E. Goeke

David E. Goeke
Refuge Manager
March 1, 1971

Approved by:

Omer N. Swenson

Omer N. Swenson
Wetlands Manager
March 1, 1971

Approved, Regional Office:

Date: MAR 09 1971

J. Carlsen

Regional Refuge Supervisor ACTING

Copy - 1922 Regulations

Sully Hill National Park,
Season of 1922.

RULES AND REGULATIONS.

If you enter the Park it is to be understood that you enter subject to what Rules and Regulations the Managemant stipulates.

Cars and Autos.

Drive cars at slow speed, both coming and going. We mean four miles per hour maximum speed. Park your car where you are directed to and leave it there until you are ready to leave the Park. When you start that car, it goes directly out.

Don't drive your car into the house yard or from one parking ground to the other. Cars from north parking grounds can stop in south grounds for water (for car) as they are leaving, but always inform us what you want and handle your car inside under our directions.

Care of Grounds

Dogs, horses, firearms, shooting not allowed inside the Park. Leave the flowers, shrubbery, wild fruits strictly alone. See that none of your party pass beyond the next fence. It is dangerous.

Watch the boys and children in that they do not use knives and pencils on the tables, seats, trees and other improvements.

Don't scatter paper, wrappers, boxes, peelings about the Park Put all waste in baskets at each table. Clean up your picnic mess, strings, shells, peelings and place all in baskets. On Sundays clear your table as soon as possible so another party can have it.

The Park closes at sundown. Cars cannot come in after Six P. M.

3-1750
Form N[illegible].
(Rev. March 1953)

WATERFOWL

REFUGE Sully's Hill NGP MONTHS OF January TO April, 19 79

(1) Species	(2) Weeks of reporting period 1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling			NO WATERFOWL PRESENT							
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:										

Int. Dup. Sec., Wash., D.C. 37944

3-1750a
Cont R-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Sully's Hill NGP MONTHS OF January TO April, 19 70

(1) Species	(2) Weeks of reporting period: 11	12	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
					Apl 1	Ap 8	Ap 15	Ap 22 Ap 29			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard					4	6	6	10	182		
Black											
Gadwall											
Baldpate											
Pintail								2	14		
Green-winged teal											
Blue-winged teal								9	63		
Cinnamon teal											
Shoveler						3		15	126		
Wood							2	2	28		
Redhead											
Ring-necked								6	42		
Canvasback								5	35		
Scaup						20	11	880	4437		
Goldeneye											
Bufflehead								35	245		
Ruddy								325	2275		
Other) Red-Breasted Mergansers								2	14		
Coots: Common Mergansers								6	42		
Coots:								6	42		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	None	---	---
Geese	None		
Ducks	7,553	1,027	---
Coots	42	6	---

SUMMARY

Principal feeding areas Fort Totten Bay and Sweetwater Lake

Principal nesting areas

Reported by David E. Cooke

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1750
Form Nh
(Rev. March 1953)

WATERFOWL

REFUGE Sallys Mill NWR MONTHS OF May TO August, 1970

(1) Species	(2) Weeks of reporting period									
	May 6 (1)	May 13 (2)	May 20 (3)	May 27 (4)	June 3 (5)	June 10 (6)	June 17 (7)	June 24 (8)	July 1 (9)	July 8 (10)
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	14	10	8	8	8	8	8	8	6	5
Black										
Gadwall	10			2	2	2	2			
Baldpate	5	5	2	2	2	2	2	2		
Pintail			2	2						1
Green-winged teal				2						
Blue-winged teal	8	28	7	6	6	5	7			
Cinnamon teal										
Shoveler		2								
Wood	2	3	11	12	8	2	2	2	2	2
Redhead	22	2	2	2	2	2	2			
Ring-necked		5								
Canvasback										
Scaup	112	362	10							
Goldeneye										
Bufflehead	3	5								
Ruddy	21	40								3
Other										
Coot:	9	67	8	5						1

3 -1750a
Cont. N
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Sallye Mill WGP MONTHS OF May TO August, 19 70

(1) Species	(2) Weeks of reporting period: July 15 (11)	July 22 (12)	July 29 (13)	Aug 5 (14)	Aug 12 (15)	Aug 19 (16)	Aug 26 (17)	XXXXX (18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	(4) Production: Estimated total
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	13	11	11	18	18	18	20		1,344	2	17
Black											
Gadwall									126		
Baldpate									154		
Pintail							11		112		
Green-winged teal									14		
Blue-winged teal				6	9	27	40		1,043		
Cinnamon teal											
Shoveler					4	5	3880		26,677		
Wood	2	2	2	2	2	3	13		504		
Redhead									98		
Ring-necked									35		
Canvasback											
Scaup									3,388		
Goldeneye											
Bufflehead									56		
Ruddy									448		
Other											
	3	2	7	3	9	10	22		1,015		
Coot:											

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	---	---	---
Geese	---	---	---
Ducks	33,999	3,884	17
Coots	1,015	67	---

SUMMARY

Principal feeding areas Ft. Totten Bay of Devils Lake and Sweetwater Lake.

Principal nesting areas Unit I hay meadow and shore of Sweetwater Lake

Reported by David E. Cooke

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

INT.-DUP., D.C.-53824-59

3-1750
Form NR-_
(Rev. March 1953)

WATERFOWL

REFUGE Sallys Hill NWR MONTHS OF Sept. TO Dec., 19 70

(1) Species	(2) Weeks of reporting period: Sept. 2 (1)	Sept. 9 (2)	Sept. 23 (3)	Sept. 23 (4)	Sept. 30 (5)	Oct. 7 (6)	Oct 14 (7)	Oct 21 (8)	Oct 28 (9)	Nov 4 (10)
Swans:										
Whistling								3		
Trumpeter										
Geese:										
Canada							18			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	60	75	150	150	250	300	300	300	250	150
Black										1
Gadwall						15	85	30	5	
Baldpate	5	5	5	15						
Pintail	15	15	15	5	5	5				
Green-winged teal	20	20	20	20	10					
Blue-winged teal	50	50	65	55	75	50	35	5	5	5
Cinnamon teal										
Shoveler	4000	2000	2000	2500	4500	4000	4500	5000	4000	2000
Wood	14	33	30	22						
Redhead				5	5	5				
Ring-necked										
Canvasback						10				
Scaup				50	300	350	500	500	1200	2000
Goldeneye										
Bufflehead							2	2	10	25
Ruddy	5	5	15	30	50	50	50	25	20	5
Hooded Merganser										7
Coot:	20	20	50	150	200	250	400	200	50	15

3 -1750a
Cont. N.
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Sully's Hill NP MONTHS OF September TO December, 19 70

(1) Species	(2) Weeks of reporting period: Nov 11 (11)	Nov 18 (12)	Nov 25 (13)	Dec 2 (14)	Dec 9 (15)	Dec 16 (16)	Dec 23 (17)	Dec 30 (18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	(4) Production: Estimated total
Swans:											
Whistling									21		
Trumpeter											
Geese:											
Canada									18		
Cackling											
Brant											
White-fronted											
Snow		1							7		
Blue											
Other											
Ducks:											
Mallard	150	150	5						16,030		
Black									7		
Gadwall									525		
Baldpate									210		
Pintail									420		
Green-winged teal									630		
Blue-winged teal											
Cinnamon teal											
Shoveler	2000								255,500		
Wood									693		
Redhead		2							119		
Ring-necked											
Canvasback	5	5							140		
Scaup	2500	45							52,115		
Goldeneye											
Bufflehead	15	2							392		
Ruddy	2								1,799		
~~Other~~ Hooded Merganser									49		
Coot:	5								9,520		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	21	3	
Geese	133	5,818	
Ducks	320,629	5,862	
Coots	9,580	400	

SUMMARY

Principal feeding areas Port Tobacco Bay and Sweetwater Lake.

Principal nesting areas

Reported by David E. Cooke

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

INT.-DUP., D.C.-53824-59

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Sully Hill NGP Months of January to April 195 70

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Common Loon	1	4/27	1	4/30	Still Present					2
Horned Grebe	4	4/27	10	4/29	"	"				15
Eared Grebe	1	4/27	2	4/29	"	"				3
Western Grebe	1	4/28	7	4/29	"	"				10
Pied-billed Grebe	1	4/17	1	4/17	"	"				1
Double-crested Cormorant	9	4/26	42	4/29	"	"				60
Great Blue Heron	1	4/17	1	4/30	"	"				5
White Pelican	4	4/26	40	4/29	40	4/29				50
II. Shorebirds, Gulls and Terns:										
Willet	2	4/29	2	4/29	Still Present					2
Ring-billed Gull	2	4/6	30	4/29	"	"				150
Franklin's Gull	1	4/16	200	4/30	"	"				500
Common Tern	2	4/27	15	4/29	"	"				25

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	2	4/11	2	4/29	2	4/29		10
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	1	4/26	1	4/26	1	4/26		1
Duck hawk								
Horned owl								
Magpie	Winter Resident (3)		30	3/18	21	4/28		5
Raven								
Crow	Winter Resident (2)		30	3/18	20	4/28		130
Bald Eagle	2	4/13	2	4/13	1	4/19		3
Osprey	2	4/25	2	4/25	1	4/18		33
Turkey Vulture	2	4/11	2	4/11	1	4/25		3
Sharp-shinned Hawk	1	4/13	2	4/28	1	4/30		5
Red-tailed Hawk	1	4/1	6	4/5	1	4/29		30
Marsh Hawk	1	4/5	3	4/26	3	4/26		10

Reported by.....

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1751
Form NR-.
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Sullys Hill NGP Months of May to August 19[illegible]70

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:	15	5/7	20	5/22	2	8/26				
White Pelican	15	5/7	20	5/22	2	8/26				
Double-crested Cormorant	3	5/7	33	5/13	Still Present					
Great Blue Heron	1	5/7	4	8/27	"	"				
Black-crowned Night Heron	1	5/29	8	8/27	"	"				
American Bittern	1	5/7	1	7/24	1	7/24				
Pied-billed Grebe	3	5/7	35	8/27	Still Present					
Horned Grebe	20	5/7	20	5/7	"	"				
Eared Grebe	3	8/27	3	8/27	"	"				
Western Grebe	7	5/29	150	8/27	"	"				
Red-necked Grebe	1	8/23	1	8/23	1	8/23				
Belted Kingfisher	2	5/7	8	8/27	Still Present					
Sora Rail	heard	5/7	-	---	"	"				
II. Shorebirds, Gulls and Terns:										
Ring-billed Gull	30	5/7	35	8/13	Still Present					
Franklin's Gull	50	5/7	200	8/27	"	"				
Black Tern	6	5/22	12	7/9	"	"				
Common Tern	10	5/7	15	6/18	"	"				
Killdeer	4	5/7	9	7/9	"	"				
Lesser Yellowlegs	1	5/7	8	7/9	"	"				
Greater Yellowlegs	1	8/23	4	8/27	"	"				
Spotted Sandpiper	1	5/7	4	8/27	"	"				
Solitary Sandpiper	1	5/9	6	8/27	"	"				
Wilson's Phalarope	7	5/13	7	5/13	2	5/29				
Northern Phalarope	35	5/22	35	5/22	35	5/22				
Stilt Sandpiper	3	5/22	3	5/22	1	5/29				
Willet	2	5/7	2	5/13	1	8/13				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	2	5/2	Common		Still Present			
White-winged dove								
IV. Predaceous Birds:								
Golden eagle								
Duck hawk								
Horned owl	1	5/7	Heard Occasionally		Still Present			
Magpie	1	6/10	1	7/18	1	7/18		
Raven								
Crow	6	5/1	Common		Still Present			
Bald Eagle	1	5/1	1	5/1	1	5/1		
Osprey	1	5/14	1	5/14	1	5/14		
Red-tailed Hawk	1	5/1	2	5/21	1	8/27		
Broad-winged Hawk	1	5/1	8	5/15	1	8/21		
Pigeon Hawks	1	8/27	1	8/27	1	8/27		
Sharp-shinned Hawk	1	6/5	1	6/5	1	6/5		
Turkey Vulture	1	5/31	1	5/31	1	5/31		

Reported by.....

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1751
Form NR-.
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Sullys Hill NGP Months of September to December 1970

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Horned Grebe	8	9/2	20	10/2	5	10/21				
Eared Grebe	2	11/4	2	11/4	2	11/4				
Western Grebe	150	9/2	185	10/2	2	11/15				
Pied-billed Grebe										
White Pelican	3	9/2	80	9/27	80	9/27				
Double-Crested Cormorant	25	9/2	39	9/10	2	10/14				
Great Blue Heron	1	9/2	55	9/18	1	10/5				
Black-crowned Night Heron	4	9/2	8	9/18	1	10/10				
II. Shorebirds, Gulls and Terns:										
Killdeer	2	9/2	4	9/9	1	10/14				
Spotted Sandpiper	1	9/8	1	9/9	1	9/9				
Solitary Sandpiper	2	9/2	2	9/2	1	9/21				
Willet	2	9/9	2	9/9	2	9/9				
Greater Yellowlegs	2	9/2	6	9/21	6	9/21				
Lesser Yellowlegs	3	9/2	10	9/21	2	10/14				
Pectoral Sandpiper	1	9/2	1	9/2	1	9/2				
American Avocet	5	9/9	5	9/9	5	9/9				
Glaucous Gull	1	11/25	1	11/25	1	11/25				
Ring-billed Gull	15	9/2	150	9/23	5	11/21				
Franklin's Gull	200	9/2	300	9/9	25	9/14				
Black Tern	3	9/2	5	9/9	5	9/9				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	5	9/2	10	10/7	2	10/21		
White-winged dove								
IV. Predaceous Birds:								
Golden eagle								
Duck hawk								
Horned owl	Resident		2	Resident				
Magpie	Resident		20	11/4	Resident			
Raven								
Crow	Resident		300	10/7	Resident			
Goshawk	1	11/26	1	11/26	1	11/26		
Sharp-shinned Hawk	1	9/14	3	9/21	1	10/14		
Red-tailed Hawk	1	9/10	3	11/4	3	11/4		
Bald Eagle	1	10/9	3	11/25	3	11/28		
Marsh Hawk	3	9/20	3	9/20	3	9/20		
Osprey	1	9/11	1	9/20	1	9/20		

Reported by David E. Cooke

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Sullys Hill NGP For 12-month period ending August 31, 1970

Reported by David E. Cooke Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	Acreage		(3) Use-days	(4) Breeding Population	(5) Production
	Crops	30	Ducks	159,397	23	17
	Upland	1470	Geese	- -	(captive 21)	7
	Marsh	15	Swans	- -		
	Water	160	Coots	8,673		
	Total	1675	Total	168,070	44	24
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.

(5) **Production:** Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sully's Hill NCP Months of January to April, 19 X 70

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-n Pheasant	Total acres 1,675 700 acres of marsh and timbered pasture. Remainder is open pasture and heyland.								2	2 hens occasionally seen at recreation area feeder.
Sharp-t Grouse	"								Unknown	None seen
Grey Partridge	"								Unknown	None seen

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sallys Mill NWR Months of May to August, 19 70

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Total acres 1,67[illegible] 700 acres of marsh timbered pasture. Remainder is open pasture & hayland	837	-	-	---	-	-	-	2	Two hens observed at same time and no cocks heard crowing.
Sharp-tailed Grouse	"	67	2 nests found	20	----	-	-	-	25	Two nests found in 50 acres burned in Unit II. At least one known to hatch 15 eggs.
Gray Partridge	"	167	-	-	----	-	-	-	10	Three observed by permittee when farming in Unit II.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sullys Hill NGP Months of September to December, 19 70

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
R-N Pheasant	Total acres 1,674 700 acres of marsh and timbered pasture Remainder is open pasture and hayland								0	None seen since 2 hens during spring 1970.
S-T Grouse	"	60							28	Flock of 17 in Unit II Flock of 11 in Unit II
Gray Partridge	"	84							20	1 covey in Unit II

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts,etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-17
Form NR-3
(June 1945)

BIG GAME

Refuge Sully's Hill NGP Calendar Year 1970

(1) * Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
American Bison	700 A. enclosure. Timber on large rolling hills. Approx. 250 A. grass.	8			5			1		2	Ft. Niobrara NWR	40	35	
Elk	"	8			8		1	Loss cause unknown		1	" (lost)	32	23	
W-T Deer	"	14			6*							36	30	

Remarks:

* Donated to North Dakota Deaf School, Devils Lake, N. Dak.

Reported by David E. Cooke

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1754
Form N. 4
(June 1945)

SMALL MAMMALS

Refuge Sully's Hill [illegible] Year ending April 30, Jan. - April 1970

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5)
								Share Trapping						
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	Total Population
Woodchuck	1,674 acres timber and grassland													6
Raccoon	"													20
Mink	"													5
Cottontail	"													20
Striped Skunk	"													4
Red Fox	"													6
Gray Squirrel	"													60
Fox Squirrel	"													40
Pocket Gopher	"													30

* List removals by Predator Animal Hunter

REMARKS:

Reported by _____

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

116007

3-1755
Form No-5
60701

DISEASE

Refuge Sully's Hill NGP Year 19 70

Botulism

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease Distemper

Species affected Raccoon

Number Affected Species	Actual Count	Estimated
1	2	20

Number Recovered 2

Number lost _____

Source of infection Unknown

Water conditions _____

Food conditions _____

Remarks Specimens examined by veterinarian. Rabies test negative.

3-1758
Form N
(Rev. Jan. 1956)

ish and Wildlife Service Branc. of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sully's Hill NGP County Benson State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return Harvested		Government's Share or Return Unharvested		Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Acres	Bu./ Tons	Acres	Bu. /Tons			
Oats	20	600 bu.	10	300 bu.			30		30
								Fallow Ag. Land.	None

No. of Permittees: Agricultural Operations 1 Haying Operations 2 Grazing Operations None

Refuge Share

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Receipts	Grazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa	160*	90	24					
Alfalfa-Brome	50	80	29	1. Cattle				
Alfalfa-Native	40	40	32					
Native	20	40	8					
Brome	70	43	8	2. Other				
Refuge share of 40 T. second cut will be in hayland improvement, spring of 71.				1. Total Refuge Acreage Under Cultivation				30
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR--8'
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only thenumber of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvesed column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-1570
NR-8a
(4/54)

REFUGE GRAIN REPORT

Refuge Sullys Hill NGP Months of January through December, 19X 70

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Barley	500	-	500	-	-	200	200	300		300	None
Oats	-	300	300	-	-	70	70	230		230	None
Corn	-	30	30	-	-	10	10	20		20	None

(8) Indicate shipping or collection points

(9) Grain is stored at Preserve Headquarters

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

INT.-DEP. SEC., WASH., D.C. 17065

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Sullys Hill NGP MONTHS OF Sept. TO Dec., 19 70

(1) Species	(2) Weeks of reporting period: Sept. 2 / 1	Sept. 9 / 2	Sept. 16 / 3	Sept. 23 / 4	Sept. 30 / 5	Oct. 7 / 6	Oct 14 / 7	Oct 21 / 8	Oct 28 / 9	Nov 4 / 10
Swans:										
Whistling								3		
Trumpeter										
Geese:										
Canada							18			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	60	75	150	150	250	300	300	300	250	150
Black										1
Gadwall						15	25	30	5	
Baldpate	5	5	5	15						
Pintail	15	15	15	5	5	5				
Green-winged teal	20	20	20	20	10					
Blue-winged teal	50	50	65	55	75	50	35	5	5	5
Cinnamon teal										
Shoveler	4000	2000	2000	2500	4500	4000	4500	5000	4000	2000
Wood	14	33	30	22						
Redhead				5	5	5				
Ring-necked										
Canvasback						10				
Scaup				50	300	350	500	500	1200	2000
Goldeneye										
Bufflehead							2	2	10	25
Ruddy	5	5	15	30	50	50	50	25	20	5
Other Hooded Merganser										
Coot:	20	20	50	150	200	250	400	200	50	

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Sullys Hill NGP MONTHS OF September TO December, 19 70

(1) Species	(2) Weeks of reporting period: Nov 11 (11)	Nov 18 (12)	Nov 25 (13)	Dec 2 (14)	Dec 9 (15)	Dec 16 (16)	Dec 23 (17)	Dec 30 (18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:											
Whistling									21		
Trumpeter											
Geese:											
Canada									18		
Cackling											
Brant											
White-fronted											
Snow		1							7		
Blue											
Other											
Ducks:											
Mallard	150	150	5						16,030		
Black									7		
Gadwall									525		
Baldpate									210		
Pintail									420		
Green-winged teal									630		
Blue-winged teal											
Cinnamon teal											
Shoveler	2000								255,500		
Wood									693		
Redhead		2							119		
Ring-necked											
Canvasback	5	5							140		
Scaup	2500	45							52,115		
Goldeneye											
Bufflehead	15	2							392		
Ruddy	2								1,799		
Other Hooded Merganser									49		
Coot:	5								9,520		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	21	3	
Geese	133	18	
Ducks	328,629	5,862	
Coots	9,520	400	

SUMMARY

Principal feeding areas Fort Totten Bay and Sweetwater Lake.

Principal nesting areas

Reported by David E. Goeke

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

INT.-DUP., D.C.-53824-59

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Sullys Hill NGP Months of September to December 1970

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Horned Grebe	8	9/2	20	10/2	5	10/21				
Eared Grebe	2	11/4	2	11/4	2	11/4				
Western Grebe	150	9/2	185	10/2	2	11/15				
Pied-billed Grebe										
White Pelican	3	9/2	80	9/27	80	9/27				
Double-Crested Cormorant	25	9/2	39	9/10	2	10/14				
Great Blue Heron	1	9/2	55	9/18	1	10/5				
Black-crowned Night Heron	4	9/2	8	9/18	1	10/10				
II. Shorebirds, Gulls and Terns:										
Killdeer	2	9/2	4	9/9	1	10/14				
Spotted Sandpiper	1	9/8	1	9/9	1	9/9				
Solitary Sandpiper	2	9/2	2	9/2	1	9/21				
Willet	2	9/9	2	9/9	2	9/9				
Greater Yellowlegs	2	9/2	6	9/21	6	9/21				
Lesser Yellowlegs	3	9/2	10	9/21	2	10/14				
Pectoral Sandpiper	1	9/2	1	9/2	1	9/2				
American Avocet	5	9/9	5	9/9	5	9/9				
Glaucous Gull	1	11/25	1	11/25	1	11/25				
Ring-billed Gull	15	9/2	150	9/23	5	11/21				
Franklin's Gull	200	9/2	300	9/9	25	9/14				
Black Tern	3	9/2	5	9/9	5	9/9				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	5	9/2	10	10/7	2	10/21		
White-winged dove								
IV. Predaceous Birds:								
Golden eagle								
Duck hawk								
Horned owl	Resident		2	Resident				
Magpie	Resident		20	11/4	Resident			
Raven								
Crow	Resident		300	10/7	Resident			
Goshawk	1	11/26	1	11/26	1	11/26		
Sharp-shinned Hawk	1	9/14	3	9/21	1	10/14		
Red-tailed Hawk	1	9/10	3	11/4	3	11/4		
Bald Eagle	1	10/9	3	11/25	3	11/28		
Marsh Hawk	3	9/20	3	9/20	3	9/20		
Osprey	1	9/11	1	9/20	1	9/20		

Reported by David E. Goeke

INSTRUCTIONS

(1) - Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sullys Hill NGP Months of September to December, 19 70

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
R-N Pheasant	Total acres 1,674 700 acres of marsh and timbered pasture Remainder is open pasture and hayland								0	None seen since 2 hens during spring 1970.
S-T Grouse	"	60							28	Flock of 17 in Unit II Flock of 11 in Unit II
Gray Partridge	"	84							20	1 covey in Unit II

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Sullys Hill NGP Calendar Year 1970

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
American Bison Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
American Bison	700 A. enclosure. Timber on large rolling hills. Approx. 250 A. grass.	8			5			1		2	Ft. Niobrara NWR	40	35	
Elk	"	8			8		1 lost cause unknown			1	" (lost)	32	23	
W-T Deer	"	14			6*							36	30	

Remarks:

* Donated to North Dakota Deaf School, Devils Lake, N. Dak.

Reported by David E. Goeke

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1755
Form NR-5
60701

DISEASE

Refuge Sullys Hill NGP Year 19 70

Botulism

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease Distemper

Species affected Raccoon

Number Affected Species	Actual Count	Estimated
1	2	20

Number Recovered 2

Number lost _____

Source of infection Unknown

Water conditions _____

Food conditions _____

Remarks Specimens examined by veterinarian.
Rabies test negative.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sullys Hill NGP County Benson State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return Harvested		Government's Share or Return Unharvested		Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Acres	Bu./ Tons	Acres	Bu. /Tons			
Oats	20	600 bu.	10	300 bu.			30		30
								Fallow Ag. Land.	None

No. of Permittees: Agricultural Operations 1 Haying Operations 2 Grazing Operations None

Refuge Share

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	Grazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa	160*	90	22~~21~~ 1135	20				
Alfalfa-Brome	50	80	22~~25~~ 1100	Cattle				
Alfalfa-Native	40	40	20~~22~~ 800					
Native	20	40	18~~8~~ 360					
Brome	70	43	18~~35~~ 1260	Other				
Refuge share of 40 T. second cut will be in hayland improvement, spring a?71.				1. Total Refuge Acreage Under Cultivation				30
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR--8'
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only thenumber of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvesed column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-1570
NR-8a
(4/54)

REFUGE GRAIN REPORT

Refuge Sullys Hill NGP Months of January through December, 19~~5~~70

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Barley	500	-	500	-	-	200	200	300		300	None
Oats	--	300	300	-	-	70	70	230		230	None
Corn	-	30	30	-	-	10	10	20		20	None

(8) Indicate shipping or collection points

(9) Grain is stored at Preserve Headquarters

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

INT.-DEP. SEC., WASH., D.C. 17065

SULLYS HILL NATIONAL GAME PRESERVE
Fort Totten, North Dakota

"BISON TRAIL"

Length: 4 miles Speed Limit: 15 MPH

DANGER! Animals are unpredictable and quick.

Beverages are not permitted in the enclosure.

Since the buffalo, elk, and white-tailed deer move about freely within this enclosure, where you will find them is unpredictable. Items I, II and III are intended for reading when you find the animals concerned.

I. BUFFALO. Nearly extinct by 1890, buffalo, actually the "American Bison" but historically accepted as "Buffalo," now number over 25,000. The preserve's herd totals about 40 during the summer. Breeding takes place during mid to late summer and the reddish-colored calves are born the following April or May. Both sexes have horns and those of a bull are much thicker and longer than a cow's. As the calves mature, their horns become longer and more curved. By the time they are 10 years old the horns are curved inward toward each other. They are sexually mature at 3 years and may live to be 25-30 years old. Though docile and slow in appearance, buffalo are very quick and unpredictable and are potentially quite dangerous. Don't take foolish chances!

II. ELK. Next to moose, elk are the largest members of the deer family in North America. During the breeding season in September and early October, bulls challenge each other with high-pitched bugling calls. The strongest bull gathers the cows together in a harem, keeping other bulls away. Spotted calves are born the following May or June. Unlike the horns of buffalo, only bull elk have antlers and these are shed each year. During his second year a bull has short spike antlers; during the third year his rack generally has 3-5 points on each side; and from the fourth year on he usually has the mature bull's full compliment of 6 points on each side. Approximately 30 elk are present on the preserve during the summer.

III. WHITE-TAILED DEER. White-tailed deer are the most widespread and abundant big-game animals in the United States today. They do not herd up like the buffalo and elk but generally remain scattered throughout the enclosure. Like the elk only bucks have antlers and theirs too are shed each year. Deer also mate during the fall and the spotted fawns are born during May or June. A doe giving birth for the first time will have a single fawn, thereafter usually having twins. Triplets are not rare. In addition to the white of the underside of the tail, the white hairs of the rump are raised and flared when a deer is alarmed. Often, however, deer will prefer to stand motionless and let danger pass or sneak away unseen with their tail down. The preserve's deer herd totals approximately 30-35 during the summer.

1. BUFFALO WALLOW. Usually dry by early summer, this pothole is an excellent spot for rolling and dusting. The dust filtering down into the buffalo's hair chokes the biting insects that pester the animals and reduces the insects' activity. Many other wallows are visible along the trail.

2. DEER POND. White-tailed deer are often seen near this pothole, especially in the evening. They are active then and in the morning feeding on buds, shoots, and young leaves. Watch for deer along edges of openings, near water and in wooded areas.

3. *FORT TOTTEN VISTA.* (Park on right shoulder. Walk through opening.) The white buildings at the left near the water tower are the old cavalry fort, built during the early 1870's and now a state historical park. The walls of the buildings are 2-3 feet thick and are made of bricks kilned at Sullys Hill. The original log fort was located about 1/2 mile north (right) near the present, brown St. Thomas Episcopal Church. Until 1911 a steamship from Devils Lake used to dock in the now dry bay below.

4. *GRASSLAND COMMUNITY.* Ground temperature, moisture, and light vary with different exposure to the sun. Here on the south slopes the warmer, dryer conditions limit plant growth to grassland species. On these slopes short grasses such as Blue Gramma are dominant.

5. *OAK-ASH COMMUNITY.* On the north slopes of the hills and in the cooler dry areas Burr Oak and Green Ash are the dominant plants. The conditions of temperature, moisture, and light here favor these trees rather than grasses.

6. *DEVILS LAKE VISTA.* The lake's proper name is "Minnewaukan" meaning "Spirit Water". From a legend of the drowning of two hostile bands of Indians who met in its center, the Spirit was considered bad - hence Devils Lake. Apparently due to climatic changes, the lake level has dropped over 30 feet since the early 1800's and become so alkaline it will not support fish. The Garrison Diversion Project will divert water from Lake Sakakawea, 100 miles west, into Devils Lake during the mid or late 1970's. This will raise the portion of the lake below approximately 10 feet and restore it for fish and recreation. The Devils Lake area is an important staging or gathering area for migrating ducks, geese, and whistling swans.

7. *ELM-BASSWOOD COMMUNITY.* As a result of the higher moisture from two springs that water this valley, the dominant plant species here are American Elm and Basswood trees. Many of the trees in the valley have several trunks, having grown up from old stumps. Logs for the origianl Fort Totten were cut here in 1867. With its reliable water supply, this valley is one of the best areas to find deer, elk, and buffalo, especially in late summer.

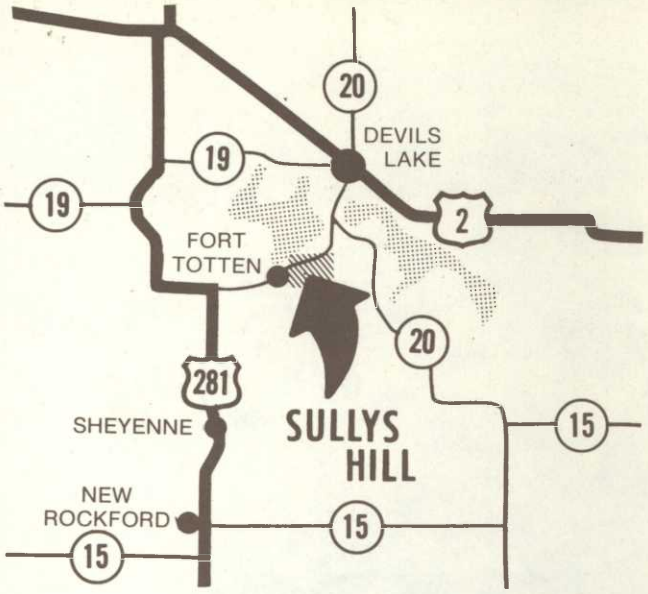
8. *CLAY EXCAVATION.* Beginning in 1868 bricks for the buildings of the present Fort Totten were kilned here on the north slope of Sullys Hill and floated across the bay on barges. It was soon found that due to limestone pebbles in the clay the bricks would disintegrate on beccming wet, and the whole fort had to be painted to keep the rain out.

9. *MEADOW GRASSLAND.* Both buffalo and elk are primarily grazing animals and utilize these areas for much of their food. Patches of Buckbrush, part of the meadow "climax vegetation", are mowed periodically to reduce competition with grasses.

10. *SULLYS HILL.* At an elevation of 1,735 feet above sea level, Sullys Hill rises about 330 feet above Devils Lake and is the high point of the general area. The hill was named in 1865 for General Alfred Sully, leader of several Indian campaigns in this area. Three Indian burial mounds are located at the summit. Buffalo and elk favor the hill's grassy slope for grazing.

11. *PREHISTORIC INDIAN BURIAL MOUNDS.* The burial mound at the right is typical of 8 such mounds found in the enclosure. They are though to be about 600 years old. Apparently, there was a log tomb over the burial covered with the earthen mound. The logs have long since decayed and collapsed, leaving the depression in the top of the mound. Little is known of these people and how they relate to historic tribes.

12. *CORRAL.* The corral is used primarily for Brucellosis vaccinating of the buffalo calves. Brucellosis is a disease affecting reproduction in domestic cattle as well as buffalo. The herd is baited into the corral and the heifer or female calves are separated for vaccinating. The hay pen at the left is used for storage of hay cut on other parts of the preserve and used as supplemental winter feed.



LOCATION MAP

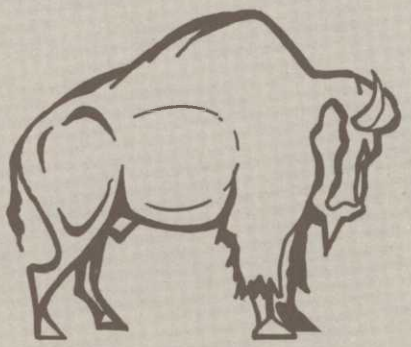
SULLYS HILL

National Game Preserve

PLEASE HELP PREVENT LITTER

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of National Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.



North Dakota

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

RL-58-R2 • JULY 1970

SULLYS HILL

National Game Preserve

Sullys Hill National Game Preserve is located on the south shore of Devils Lake in the heart of the Fort Totten Sioux Indian Reservation. It is one of four fenced refuges maintained by the Bureau of Sport Fisheries and Wildlife for buffalo and elk. The preserve is divided into two parts: the original 994-acre big-game unit with its 700-acre enclosure and a newer 680-acre hay unit southwest of Fort Totten.

Wooded glacial moraine hills and native grasslands make the big-game unit a picturesque home for buffalo, elk, white-tailed deer and other species of native wildlife. Here the visitor can drive the big-game auto tour route, use the picnic area and nature trail, see the waterfowl display flock and find other recreational opportunities.

History

When Sullys Hill received its name in 1865, the last great buffalo herds still roamed this largely unsettled, dangerous country. A column of the 3rd Illinois Volunteer Cavalry was sent to join an army expedition led by General Alfred Sully against the Sioux of the area. Though failing to meet General Sully's force, the Illinois troopers camped nearby and gave the hill its present name.

Two years later, the Army established Fort Totten to protect the overland route between southern Minnesota and western Montana. Logs for the original fort and clay used for making the bricks of the present buildings came from Sullys Hill.

In 1904, Sullys Hill was set aside as a national park by proclamation of President Theodore Roosevelt. Ten years later, Congress established the big game preserve and in 1917, 15 elk arrived from Yellowstone National Park and four deer were brought here from the Fargo Agricultural Experiment Station. Six buffalo arrived the next year from the Portland, Oregon, City Park.

In 1931, Sullys Hill was transferred from the National Park System to the National Wildlife Refuge System. Since that time, preservation of the buffalo and elk has been assured and the preserve is now managed to stress outdoor education and wildlife-oriented recreation.

Wildlife

BUFFALO—When Sullys Hill became a big game preserve in 1914, buffalo were considered an endangered species. Where millions of these great beasts once roamed the high prairies, only small remnant herds remained. They disappeared from North Dakota in 1884 and by 1895, only 20 wild buffalo remained in the United States and 250 were left in Canada.

Protective laws, establishment of refuges and propagation of private herds helped save the species and started its recovery to a safe level. When the Sullys Hill herd was started in 1918, the total had risen to about 4,000. Now numbering about 25,000 in North America, the buffalo is out of danger.

The Sullys Hill herd numbers about 40 during the summer and is maintained chiefly for its historic, educational and recreational value.

ELK—Next to the moose, the elk is the largest member of the deer family in North America. It, too, was slaughtered, often solely for its two canine teeth which once sold as charms for $25 a pair. By 1900, elk had become extinct over much of their former range, including North Dakota. Modern game management has rebuilt the elk population. About 30 elk are present at Sullys Hill to remind us that they were once native to this area.

WHITE-TAILED DEER—By 1900, the once-abundant white-tailed deer was threatened with extinction in North Dakota. Careful regulation of hunting seasons and the deer's natural wariness has allowed its population to rebuild. The preserve's

herd of about 30 head are wild and must be censused from the air in winter months.

WATERFOWL—A display flock of native waterfowl species is located at Sweetwater Lake. This flock includes whistling swans, two races of Canada geese, blue and snow geese, white-fronted geese and several species of ducks. As many as possible of the species native to the Devils Lake area are represented.

The giant Canada geese are semi-captive and nest on the islands provided in the lake. Each year, some of the offspring join the fall migration south and some are thought to return to this area to nest.

This mixed flock of native waterfowl provides an excellent opportunity to learn and practice waterfowl identification. Interpretive information and observation areas are located along the lake shore.

OTHER WILDLIFE—The preserve's wildlife community contains many other species, including mammals such as foxes, raccoons, skunks, weasels, mink, gray and fox squirrels, muskrats, rabbits, woodchucks and others. Many species of songbirds and shorebirds may be observed. Bald and golden eagles occasionally are seen hunting over the area during the spring and fall migrations.

NATIVE GRASSES—A native grass display near the entrance to the big-game enclosure provides a living insight into this valuable resource. Chief source of food for the buffalo and the original prairie's dominant vegetation, these native grasses have been and are an important part of our environment.

Recreation

Auto Tour—Pick up a tour leaflet and enjoy the self-guided four-mile auto route tour through the big-game enclosure. Only visitors in cars without trailers or in pickup-size trucks are permitted on this route, primarily because of the steep hills on the route and the potentially dangerous animals present.

Picnicking—A picnic area with drinking water and toilet facilities is available on the southwest side of Sweetwater Lake. Fires are permitted only in the permanent fireplaces or in portable stoves or grills.

Nature Trail—A mile-long self-guided nature trail for hikers begins and ends at the picnic area. Interpretive signs are provided at points of interest along this trail.

Waterfowl Observation—Observation areas and interpretive information are provided at Sweetwater Lake.

Photography—Excellent opportunities are available to photograph buffalo, elk, deer, waterfowl and other species of wildlife without interference from fences or cage bars.

Birdwatching—Many species not normally seen in the open areas of the state may be found in the preserve's wooded areas. You may obtain a checklist of birds found on the preserve at the visitor information station near the picnic area.

Additional Information—

- Camping and firearms of any kind are not permitted on the preserve.
- The preserve is open from 8 a.m. to sunset daily.
- Dogs must be kept on a leash.
- From Nov. 1 to May 1, preserve roads will be open only as conditions permit. Roads will be closed for preserve operations and when ice and snow make them dangerous.

Sullys Hill

NATIONAL GAME PRESERVE